

SEQUENCE LISTING

<110> Takeda Pharmaceutical Company Limited

<120> PREVENTIVE/REMEDY FOR RESPIRATORY DISEASES

<130> G06-0052

<150> JP2004-092064

<151> 2004-03-26

<160> 73

<210> 1

<211> 816

<212> DNA

<213> Homo sapience

<400> 1

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gtcatcttct	ccateccac	atacgtgggc	ttttgacctg	ccttcgtggt	cctggataatc	180
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gcgacgcagc	tgctaccttg	cctggggcag	acctctacc	agcatgtgat	gtttgtgttc	300
cccgtgacgc	tgctgcattg	ggcccgcagc	ccggccctcc	tgccccacga	agctcccgag	360
ctgtctctgc	tgctgcacca	catcctgttc	tgcctgctac	tcttcgacat	ggagttcttc	420
gtgtggcacc	tgctgcacca	caaggtgccc	tggctgtacc	gcaccttcca	caaggtgcac	480
caccagaact	cgctctcggt	cgcgctggca	acgcagtata	tgagcgtctg	ggaactgttt	540
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ctgcatcaact	ctcactttta	ctgcaacttc	gctccgtact	ttacacactg	ggacaaaata	780
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<210> 2

<211> 272

<212> PRT

<213> Homo sapience

<400> 2

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Gln	Leu	Phe	Leu	Gln	Pro	Leu	Trp	Asp	His	Leu	Arg	Ser	Trp	Glu	Ala
			20					25					30		
Leu	Leu	Gln	Ser	Pro	Phe	Phe	Pro	Val	Ile	Phe	Ser	Ile	Thr	Thr	Tyr
		35					40					45			
Val	Gly	Phe	Cys	Leu	Pro	Phe	Val	Val	Leu	Asp	Ile	Leu	Cys	Ser	Trp

50	55	60
Val Pro Ala Leu Arg Arg Tyr Lys Ile His Pro Asp Phe Ser Pro Ser		
65	70	75
Ala Gln Gln Leu Leu Pro Cys Leu Gly Gln Thr Leu Tyr Gln His Val		80
	85	90
Met Phe Val Phe Pro Val Thr Leu Leu His Trp Ala Arg Ser Pro Ala		95
	100	105
Leu Leu Pro His Glu Ala Pro Glu Leu Leu Leu Leu Leu His His Ile		110
	115	120
Leu Phe Cys Leu Leu Leu Phe Asp Met Glu Phe Phe Val Trp His Leu		125
	130	135
Leu His His Lys Val Pro Trp Leu Tyr Arg Thr Phe His Lys Val His		140
145	150	155
His Gln Asn Ser Ser Ser Phe Ala Leu Ala Thr Gln Tyr Met Ser Val		160
	165	170
Trp Glu Leu Phe Ser Leu Gly Phe Phe Asp Met Met Asn Val Thr Leu		175
	180	185
Leu Gly Cys His Pro Leu Thr Thr Leu Thr Phe His Val Val Asn Ile		190
	195	200
Trp Leu Ser Val Glu Asp His Ser Gly Tyr Asn Phe Pro Trp Ser Thr		205
210	215	220
His Arg Leu Val Pro Phe Gly Trp Tyr Gly Gly Val Val His His Asp		225
	230	235
Leu His His Ser His Phe Asn Cys Asn Phe Ala Pro Tyr Phe Thr His		240
	245	250
Trp Asp Lys Ile Leu Gly Thr Leu Arg Thr Ala Ser Val Pro Ala Arg		255
	260	265
		270

<210> 3

<211> 924

<212> DNA

<213> Homo sapience

<400> 3

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ccgggaccct	cagagttgca	ctccgaagac	lccagattcc	gagagttgcg	gaaacgctac	180
gaggaccigc	taaccaggct	gcgggccaac	cagagclggg	aagattcgaa	caccgacctc	240
gtcccgggcc	ctgcagtcgc	gatactcagc	ccagaagtgc	ggctgggata	cggcgggccac	300
ctgcaccigc	gtatctctcg	ggcgcgccct	ccctgagggg	tcccgagggc	ctcccgccct	360
caccggggct	tgctccggct	gtcccgagcg	gcgtcaaggt	cgtgggacgt	gacacgaccg	420
ctgcggcgct	agctcagcct	tgcaagaccc	caggcgcccc	cgctgcacct	gcgactgtcg	480
ccgccgccgt	cgcagtcgga	ccaactgcig	gcagaatcct	cgtccgcacg	gccccagctg	540
gagttgcact	tgcgggccgca	agccgccagg	ggcgcccgca	gagcgcgctg	gcgcaacggg	600
gaccactgtc	cgctcggggc	cgggcgttgc	tgccgltcgc	acacgggtcc	cgcgtcgtcg	660
gaagaccitg	gctggggccga	tgggtgtctg	tcgccacggg	aggtgcaagt	gaccatgtgc	720
atcggcgcgct	gccccagcca	gttccggggc	gcaaacatgc	acgcgcagat	caagacgagc	780

ctgcaccgcc	igaagcccca	cacggcgcca	gcgcccgc	gcgigcccgc	cagclacaal	840
cccaatggc	tcattcaaaa	gaccgacacc	gggggtgcgc	iccagaccia	igaigacttg	900
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<210> 4  
 <211> 308  
 <212> PRT  
 <213> Homo sapience

<400> 4

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			20					25					30			
Ala	Glu	Ala	Ser	Arg	Ala	Ser	Phe	Pro	Gly	Pro	Ser	Glu	Leu	His	Ser	
		35					40					45				
Glu	Asp	Ser	Arg	Phe	Arg	Glu	Leu	Arg	Lys	Arg	Tyr	Glu	Asp	Leu	Leu	
	50					55					60					
Thr	Arg	Leu	Arg	Ala	Asn	Gln	Ser	Trp	Glu	Asp	Ser	Asn	Thr	Asp	Leu	
	65				70					75					80	
Val	Pro	Ala	Pro	Ala	Val	Arg	Ile	Leu	Thr	Pro	Glu	Val	Arg	Leu	Gly	
				85					90					95		
Ser	Gly	Gly	His	Leu	His	Leu	Arg	Ile	Ser	Arg	Ala	Ala	Leu	Pro	Glu	
			100					105					110			
Gly	Leu	Pro	Glu	Ala	Ser	Arg	Leu	His	Arg	Ala	Leu	Phe	Arg	Leu	Ser	
		115					120					125				
Pro	Thr	Ala	Ser	Arg	Ser	Trp	Asp	Val	Thr	Arg	Pro	Leu	Arg	Arg	Gln	
	130					135					140					
Leu	Ser	Leu	Ala	Arg	Pro	Gln	Ala	Pro	Ala	Leu	His	Leu	Arg	Leu	Ser	
	145				150					155					160	
Pro	Pro	Pro	Ser	Gln	Ser	Asp	Gln	Leu	Leu	Ala	Glu	Ser	Ser	Ser	Ala	
				165				170						175		
Arg	Pro	Gln	Leu	Glu	Leu	His	Leu	Arg	Pro	Gln	Ala	Ala	Arg	Gly	Arg	
			180					185					190			
Arg	Arg	Ala	Arg	Ala	Arg	Asn	Gly	Asp	His	Cys	Pro	Leu	Gly	Pro	Gly	
		195				200					205					
Arg	Cys	Cys	Arg	Leu	His	Thr	Val	Arg	Ala	Ser	Leu	Glu	Asp	Leu	Gly	
	210					215					220					
Trp	Ala	Asp	Trp	Val	Leu	Ser	Pro	Arg	Glu	Val	Gln	Val	Thr	Met	Cys	
	225				230					235					240	
Ile	Gly	Ala	Cys	Pro	Ser	Gln	Phe	Arg	Ala	Ala	Asn	Met	His	Ala	Gln	
			245					250						255		
Ile	Lys	Thr	Ser	Leu	His	Arg	Leu	Lys	Pro	Asp	Thr	Val	Pro	Ala	Pro	
			260					265					270			
Cys	Cys	Val	Pro	Ala	Ser	Tyr	Asn	Pro	Met	Val	Leu	Ile	Gln	Lys	Thr	
		275					280					285				
Asp	Thr	Gly	Val	Ser	Leu	Gln	Thr	Tyr	Asp	Asp	Leu	Leu	Ala	Lys	Asp	

290  
Cys His Cys Ile  
305

295

300

<210> 5  
<211> 621  
<212> DNA  
<213> Homo sapience

<400> 5  
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cacagtgcac tctggacagt gcaggaagcc acccccctgg gccctgccag cccccgcc 120  
cagagcttcc tgcctcaagtg cttagagcaa gtgaggaaga tccagggcga tggcgcagcg 180  
ctccaggaga agctgggtgag tgagtggtcc acctacaagc tgtgccaccc cgaggagctg 240  
gtgctgctcg gacactctct gggcatcccc tgggtcccc tgagcagctg ccccagccag 300  
gccctgcagc tggcaggctg cttgagccaa ctccatagcg gccctttcct ctaccagggg 360  
ctccctgcagg cccctggaagg gattcccccc gagttgggic ccaccttgga cacactgcag 420  
ctggacgtcg ccgacttgc caccaccaic tggcagcaga tggagaact gggaatggcc 480  
cctgccctgc agcccaccca gggtgccatg ccggccttcg cctctgcctt ccagcgccgg 540  
gcaggagggg tccctgttgc ctcccatcig cagagcttcc tggagggtgc gtaccgcgtt 600  
ctacgccacc ttgcccagcc c 621

<210> 6  
<211> 207  
<212> PRT  
<213> Homo sapience

<400> 6  
Met Ala Gly Pro Ala Thr Gln Ser Pro Met Lys Leu Met Ala Leu Gln  
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Leu Leu Leu Trp His Ser Ala Leu Trp Thr Val Gln Glu Ala Thr Pro  
20 25 30  
Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu Lys Cys Leu  
35 40 45  
Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu Gln Glu Lys  
50 55 60  
Leu Val Ser Glu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu  
65 70 75 80  
Val Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser  
85 90 95  
Cys Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His  
100 105 110  
Ser Gly Leu Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile  
115 120 125  
Ser Pro Glu Leu Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val Ala  
130 135 140  
Asp Phe Ala Thr Thr Ile Trp Gln Gln Met Glu Glu Leu Gly Met Ala

145		150		155		160									
Pro	Ala	Leu	Gln	Pro	Thr	Gln	Gly	Ala	Met	Pro	Ala	Phe	Ala	Ser	Ala
		165		170		175									
Phe	Gln	Arg	Arg	Ala	Gly	Gly	Val	Leu	Val	Ala	Ser	His	Leu	Gln	Ser
		180		185		190									
Phe	Leu	Glu	Val	Ser	Tyr	Arg	Val	Leu	Arg	His	Leu	Ala	Gln	Pro	
		195		200		205									

<210> 7  
 <211> 696  
 <212> DNA  
 <213> Homo sapience

<400> 7	
algaaggaga gacgggcccc ccagccagtc gtagccagat gtaagctcgt tctggtcggg	60
gacgtgcagt gtaggaagac cgcgatgltg caagtgttag cgaaggattg ctatccagag	120
acctatgtgc ccaccgtgtt cgaaaattac acagccgtgt tggagacaga ggaacagagg	180
gtaggagctta gtctctggga tacttcagga tctccctact acgataatgt ccgtccacac	240
tgctacagcg actcggatgc agtattacta tgttttgaca tcagccgtcc agagacagtg	300
gacagcgcac tcaagaagtg gaggacagaa atcctagatt attgtcccag caccgcgtgt	360
ttgtctcattg gctgcaagac agacctgcga acagacctga giactctgat ggagctgtcc	420
caccagaagc aggcgccccat ctccatagag cagggttgtg caatagcaaa gcagctgggt	480
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cggacggcat ccatgtctgt tctgaacaag cctagccacac tgccccagaa gagccctgtc	600
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ttcaagaagg aaaaggccaa aagctgttcc attatg	696

<210> 8  
 <211> 232  
 <212> PRT  
 <213> Homo sapience

<400> 8															
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Val	Leu	Val	Gly	Asp	Val	Gln	Cys	Gly	Lys	Thr	Ala	Met	Leu	Gln	Val
			20					25					30		
Leu	Ala	Lys	Asp	Cys	Tyr	Pro	Glu	Thr	Tyr	Val	Pro	Thr	Val	Phe	Glu
		35					40				45				
Asn	Tyr	Thr	Ala	Cys	Leu	Glu	Thr	Glu	Glu	Gln	Arg	Val	Glu	Leu	Ser
	50					55				60					
Leu	Trp	Asp	Thr	Ser	Gly	Ser	Pro	Tyr	Tyr	Asp	Asn	Val	Arg	Pro	Leu
65					70				75					80	
Cys	Tyr	Ser	Asp	Ser	Asp	Ala	Val	Leu	Leu	Cys	Phe	Asp	Ile	Ser	Arg
			85					90					95		
Pro	Glu	Thr	Val	Asp	Ser	Ala	Leu	Lys	Lys	Trp	Arg	Thr	Glu	Ile	Leu
			100					105					110		

Asp	Tyr	Cys	Pro	Ser	Thr	Arg	Val	Leu	Leu	Ile	Gly	Cys	Lys	Thr	Asp
		115					120					125			
Leu	Arg	Thr	Asp	Leu	Ser	Thr	Leu	Met	Glu	Leu	Ser	His	Gln	Lys	Gln
		130					135					140			
Ala	Pro	Ile	Ser	Tyr	Glu	Gln	Gly	Cys	Ala	Ile	Ala	Lys	Gln	Leu	Gly
145					150					155					160
Ala	Glu	Ile	Tyr	Leu	Glu	Gly	Ser	Ala	Phe	Thr	Ser	Glu	Lys	Ser	Ile
				165					170					175	
His	Ser	Ile	Phe	Arg	Thr	Ala	Ser	Met	Leu	Cys	Leu	Asn	Lys	Pro	Ser
			180					185					190		
Pro	Leu	Pro	Gln	Lys	Ser	Pro	Val	Arg	Ser	Leu	Ser	Lys	Arg	Leu	Leu
		195					200					205			
His	Leu	Pro	Ser	Arg	Ser	Glu	Leu	Ile	Ser	Ser	Thr	Phe	Lys	Lys	Glu
	210					215					220				
Lys	Ala	Lys	Ser	Cys	Ser	Ile	Met								
225						230									

<210> 9  
 <211> 744  
 <212> DNA  
 <213> Homo sapience

<400> 9	
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cgaaacctgc tctcagtagc ctataagaac gtgggtggcg gccagagggc tgcctggagg	180
gtgctgtcca glatigagca gaaaagcaac gaggagggt cggaggagaa ggggcccag	240
gtgcgtgagt accgggagaa ggiggagact gagctccagg gcgtgtgcga caccgtgctg	300
ggcctgctgg acagccacct catcaaggag gccggggacg ccgagagccg ggtcttctac	360
ctgaagaatga agggtgacta ctaccgttac ctggccgagg tggccaccgg tgacgacaag	420
aagcgcatca ttgactcagc ccggtcagcc taccaggagg ccatggacat cagcaagaag	480
gagaigccgc ccaccaaccc catccgctg ggcttggccc tgaactttc cgtcttccac	540
tacgagatcg ccaacagccc cgaggaggcc atctctcigg ccaagaccac ttctgacgag	600
gccatggctg atctgcacac cctcagcgag gactccctaca aagacagcac cctcatcatg	660
cagctgctgc gagacaacct gacactgtgg acggccgaca acgccgggga agaggggggc	720
gaggctcccc aggagcccca gagc	744

<210> 10  
 <211> 248  
 <212> PRT  
 <213> Homo sapience

<400> 10	
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Glu Arg Tyr Glu Asp Met Ala Ala Phe Met Lys Gly Ala Val Glu Lys	
	20 25 30

Gly	Glu	Glu	Leu	Ser	Cys	Glu	Glu	Arg	Asn	Leu	Leu	Ser	Val	Ala	Tyr
		35					40				45				
Lys	Asn	Val	Val	Gly	Gly	Gln	Arg	Ala	Ala	Trp	Arg	Val	Leu	Ser	Ser
	50					55					60				
Ile	Glu	Gln	Lys	Ser	Asn	Glu	Glu	Gly	Ser	Glu	Glu	Lys	Gly	Pro	Glu
65					70					75					80
Val	Arg	Glu	Tyr	Arg	Glu	Lys	Val	Glu	Thr	Glu	Leu	Gln	Gly	Val	Cys
				85					90					95	
Asp	Thr	Val	Leu	Gly	Leu	Leu	Asp	Ser	His	Leu	Ile	Lys	Glu	Ala	Gly
		100						105					110		
Asp	Ala	Glu	Ser	Arg	Val	Phe	Tyr	Leu	Lys	Met	Lys	Gly	Asp	Tyr	Tyr
	115						120					125			
Arg	Tyr	Leu	Ala	Glu	Val	Ala	Thr	Gly	Asp	Asp	Lys	Lys	Arg	Ile	Ile
130						135					140				
Asp	Ser	Ala	Arg	Ser	Ala	Tyr	Gln	Glu	Ala	Met	Asp	Ile	Ser	Lys	Lys
145					150					155					160
Glu	Met	Pro	Pro	Thr	Asn	Pro	Ile	Arg	Leu	Gly	Leu	Ala	Leu	Asn	Phe
				165					170					175	
Ser	Val	Phe	His	Tyr	Glu	Ile	Ala	Asn	Ser	Pro	Glu	Glu	Ala	Ile	Ser
		180						185					190		
Leu	Ala	Lys	Thr	Thr	Phe	Asp	Glu	Ala	Met	Ala	Asp	Leu	His	Thr	Leu
	195					200					205				
Ser	Glu	Asp	Ser	Tyr	Lys	Asp	Ser	Thr	Leu	Ile	Met	Gln	Leu	Leu	Arg
210					215						220				
Asp	Asn	Leu	Thr	Leu	Trp	Thr	Ala	Asp	Asn	Ala	Gly	Glu	Glu	Gly	Gly
225					230				235						240
Glu	Ala	Pro	Gln	Glu	Pro	Gln	Ser								
				245											

<210> 11  
 <211> 819  
 <212> DNA  
 <213> Homo sapience

<400> 11  
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 ctggacatgc cccctgtgtc ctatgatgtc cagctgtctgc aticatggaa caacaacgac 180  
 cgaatgcctca atgtctttgt gaaggaggac gacaagctca tctttaccg gcatccggtg 240  
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 ggctggggact tggggcgcaa cggctcttac cagatggca agaaccagcc aagcaaaaca 480  
 taccagacct tcttggaacc agatgagaca tcatgtgtcc ctgactcctt cctggtagcc 540  
 ctggacatgg acgacgggac tctgagcttc attgtggatg gacagtacat gggagtggct 600  
 ttctggggac tcaagggcaa aaaactgtat cctgtagiga gtgccgtctg gggccactgt 660  
 gagatccgaa tgcgctactt gaacggactc gatcccgagc cgtgccgct catggatttg 720

tgccgtcgct cgggtgcgcc ggccccgggg agggagcgcc tgggggagat ccacacgctg 780  
 ccgcctgccgg ctccctcaaa ggcctacct cctaccag 819

<210> 12  
 <211> 273  
 <212> PRT  
 <213> Homo sapience

<400> 12  
 Met Gly Gln Lys Val Thr Gly Gly Ile Lys Thr Val Asp Met Arg Asp  
                   5                  10                  15  
 Pro Thr Tyr Arg Pro Leu Lys Gln Glu Leu Gln Gly Leu Asp Tyr Cys  
                   20                  25                  30  
 Lys Pro Thr Arg Leu Asp Leu Leu Leu Asp Met Pro Pro Val Ser Tyr  
                   35                  40                  45  
 Asp Val Gln Leu Leu His Ser Trp Asn Asn Asn Asp Arg Ser Leu Asn  
                   50                  55                  60  
 Val Phe Val Lys Glu Asp Asp Lys Leu Ile Phe His Arg His Pro Val  
                   65                  70                  75                  80  
 Ala Gln Ser Thr Asp Ala Ile Arg Gly Lys Val Gly Tyr Thr Arg Gly  
                   85                  90                  95  
 Leu His Val Trp Gln Ile Thr Trp Ala Met Arg Gln Arg Gly Thr His  
                   100                  105                  110  
 Ala Val Val Gly Val Ala Thr Ala Asp Ala Pro Leu His Ser Val Gly  
                   115                  120                  125  
 Tyr Thr Thr Leu Val Gly Asn Asn His Glu Ser Trp Gly Trp Asp Leu  
                   130                  135                  140  
 Gly Arg Asn Arg Leu Tyr His Asp Gly Lys Asn Gln Pro Ser Lys Thr  
                   145                  150                  155                  160  
 Tyr Pro Ala Phe Leu Glu Pro Asp Glu Thr Phe Ile Val Pro Asp Ser  
                   165                  170                  175  
 Phe Leu Val Ala Leu Asp Met Asp Asp Gly Thr Leu Ser Phe Ile Val  
                   180                  185                  190  
 Asp Gly Gln Tyr Met Gly Val Ala Phe Arg Gly Leu Lys Gly Lys Lys  
                   195                  200                  205  
 Leu Tyr Pro Val Val Ser Ala Val Trp Gly His Cys Glu Ile Arg Met  
                   210                  215                  220  
 Arg Tyr Leu Asn Gly Leu Asp Pro Glu Pro Leu Pro Leu Met Asp Leu  
                   225                  230                  235                  240  
 Cys Arg Arg Ser Val Arg Leu Ala Leu Gly Arg Glu Arg Leu Gly Glu  
                   245                  250                  255  
 Ile His Thr Leu Pro Leu Pro Ala Ser Leu Lys Ala Tyr Leu Leu Tyr  
                   260                  265                  270  
 Gln

<210> 13  
 <211> 2370



<212> DNA

<213> Homo sapiens

<400> 13

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aaaaccaatgc	accgatacac	actggaaatg	ttcagaactt	gccagttllg	tcctcagttt	180
cgggagatca	tcacaaaagc	cccatcgcac	agaaacatcc	aggccaccc	ggaaagccag	240
aagaaactca	actgggtgicg	agaagtcgg	aagcttgttg	cgttgaaaac	gaacggigac	300
ggcaatlgcc	lcatgcatgc	cacttcicag	lcatgtggg	gcgttcagga	cacagacttg	360
gtactigagga	aggcgctgtt	cagcacgcic	aaggaaacag	acacacgcaa	ctttaaatlc	420
cgtctggcaac	tggagtctct	caaatctcag	gaattltgtg	aaacggggc	ttgctatgat	480
actcgggaact	ggaatgatga	atgggacaat	cttatcaaaa	tggcttccac	agacacaccc	540
atggccccgaa	gtggacttca	gtacaactca	ctggaagaaa	tacacataat	tgtccttllg	600
aacatcttca	gaaggccaat	catgttcatt	tcagacaaaa	tgttaagaag	tttggaaatca	660
ggltccaatt	tgcctccctt	gaaagtgggt	ggaattttact	tgcctctcca	ctggccctg	720
caggaaatgct	acagataccc	catgttctc	ggctatgaca	gccatcatll	tgtaccttgg	780
gtgaccttga	aggacagtgg	gcctgaaatc	cgagctgttc	cacttgttaa	cagagaccgg	840
ggaagatttg	aagacttaaa	agttcacctt	ttgacagatc	ctgaaaatga	gatgaaggag	900
aagctcttaa	aagagtactt	aatggatgata	gaaatccccg	tccaaggctg	ggaccaatggc	960
acaactcatc	tcatcaatgc	cgcaaagtgg	gatgaagcta	acttaccaaa	agaaatcaat	1020
ctggtagatg	attacttga	actgtttcag	catgagtaca	agaaatggca	ggaaaacagc	1080
gagcagggga	ggagagaggg	gcacgcccag	aatcccatgg	aaccttccgt	gccccagctt	1140
ttctctcatgg	atgtaaaaatg	tgaacgccc	aaatgcccc	ttctcatgtc	tgtgaacacc	1200
cagcctttat	gccatgagtg	ctcagagagg	cggcaaaaaga	atcaaaaaca	actcccaaaag	1260
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gaagcctatg	agcccttggc	gtggaacct	gaggagtcca	ctggggggcc	tcatctggcc	1380
ccaccgacag	caccagccc	tttctgttc	agttagacca	ctgccatgaa	gtgcaggagc	1440
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gcccggcaac	ttcacgccag	ccacgccc	gaccacacaa	ggcacttgg	tccggggaag	1560
tgccaaagcc	gcttccagga	tggtaccagg	acatttaatg	ggatctgcag	tacttgcctc	1620
aaaaggacta	cagcagaggc	ctctccagc	ctcagcacca	gcctccctcc	ttcctgtcac	1680
cagcgttcca	agtcagalcc	ctcgcggctc	gtccggagcc	ctccccgca	ttcttggcc	1740
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aagggtctt	gcacactgtg	tttcatcgag	lacagagaaa	acaaacatll	tgtgtctg	1920
tcagggaaaag	tcagtccac	agcgtccagg	ttccagaaca	ccatccctg	cttggggagg	1980
gaatgcggca	cccttgggaag	cacctgttt	gaaggatact	gccagaagt	tttcatgtga	2040
gtcagaatc	agagatttca	tgaggccaaa	aggacagaag	agcaactgag	atcgagccag	2100
cgcagagalg	tgcctcgaac	cacacaaaagc	acctcaaggc	ccaagtgcgc	ccgggctcc	2160
tgaagaaca	tcctggcctg	ccgcagcgag	gagctctgca	tggagtgtca	gcatcccaac	2220
cagaggatgg	gccccggggc	ccaccgggg	gagcctgccc	ccgaagaccc	ccccagcag	2280
cgttgcggg	cccccgctg	tgatcatlll	ggcaatgcc	agtgcacacg	ctactgcaac	2340
gaatgccttc	agttcaagca	gatgtatggc				2370

<210> 14

<211> 790

<212> PRT

<213> Homo sapience

<400> 14

Met	Ala	Glu	Gln	Val	Leu	Pro	Gln	Ala	Leu	Tyr	Leu	Ser	Asn	Met	Arg	
				5					10					15		
Lys	Ala	Val	Lys	Ile	Arg	Glu	Arg	Thr	Pro	Glu	Asp	Ile	Phe	Lys	Pro	
			20					25					30			
Thr	Asn	Gly	Ile	Ile	His	His	Phe	Lys	Thr	Met	His	Arg	Tyr	Thr	Leu	
		35					40					45				
Glu	Met	Phe	Arg	Thr	Cys	Gln	Phe	Cys	Pro	Gln	Phe	Arg	Glu	Ile	Ile	
	50					55					60					
His	Lys	Ala	Leu	Ile	Asp	Arg	Asn	Ile	Gln	Ala	Thr	Leu	Glu	Ser	Gln	
65					70				75						80	
Lys	Lys	Leu	Asn	Trp	Cys	Arg	Glu	Val	Arg	Lys	Leu	Val	Ala	Leu	Lys	
			85						90						95	
Thr	Asn	Gly	Asp	Gly	Asn	Cys	Leu	Met	His	Ala	Thr	Ser	Gln	Tyr	Met	
		100						105					110			
Trp	Gly	Val	Gln	Asp	Thr	Asp	Leu	Val	Leu	Arg	Lys	Ala	Leu	Phe	Ser	
	115						120					125				
Thr	Leu	Lys	Glu	Thr	Asp	Thr	Arg	Asn	Phe	Lys	Phe	Arg	Trp	Gln	Leu	
	130					135					140					
Glu	Ser	Leu	Lys	Ser	Gln	Glu	Phe	Val	Glu	Thr	Gly	Leu	Cys	Tyr	Asp	
145					150				155						160	
Thr	Arg	Asn	Trp	Asn	Asp	Glu	Trp	Asp	Asn	Leu	Ile	Lys	Met	Ala	Ser	
			165					170						175		
Thr	Asp	Thr	Pro	Met	Ala	Arg	Ser	Gly	Leu	Gln	Tyr	Asn	Ser	Leu	Glu	
		180					185					190				
Glu	Ile	His	Ile	Phe	Val	Leu	Cys	Asn	Ile	Leu	Arg	Arg	Pro	Ile	Ile	
	195					200					205					
Val	Ile	Ser	Asp	Lys	Met	Leu	Arg	Ser	Leu	Glu	Ser	Gly	Ser	Asn	Phe	
	210					215				220						
Ala	Pro	Leu	Lys	Val	Gly	Gly	Ile	Tyr	Leu	Pro	Leu	His	Trp	Pro	Ala	
225				230					235					240		
Gln	Glu	Cys	Tyr	Arg	Tyr	Pro	Ile	Val	Leu	Gly	Tyr	Asp	Ser	His	His	
			245					250					255			
Phe	Val	Pro	Leu	Val	Thr	Leu	Lys	Asp	Ser	Gly	Pro	Glu	Ile	Arg	Ala	
		260				265						270				
Val	Pro	Leu	Val	Asn	Arg	Asp	Arg	Gly	Arg	Phe	Glu	Asp	Leu	Lys	Val	
	275					280					285					
His	Phe	Leu	Thr	Asp	Pro	Glu	Asn	Glu	Met	Lys	Glu	Lys	Leu	Leu	Lys	
	290				295					300						
Glu	Tyr	Leu	Met	Val	Ile	Glu	Ile	Pro	Val	Gln	Gly	Trp	Asp	His	Gly	
305				310					315					320		
Thr	Thr	His	Leu	Ile	Asn	Ala	Ala	Lys	Leu	Asp	Glu	Ala	Asn	Leu	Pro	
			325					330					335			
Lys	Glu	Ile	Asn	Leu	Val	Asp	Asp	Tyr	Phe	Glu	Leu	Val	Gln	His	Glu	

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Cys Lys Asn Ile Leu Ala Cys Arg Ser Glu Glu Leu Cys Met Glu Cys  
                               725                              730                              735  
 Gln His Pro Asn Gln Arg Met Gly Pro Gly Ala His Arg Gly Glu Pro  
                               740                              745                              750  
 Ala Pro Glu Asp Pro Pro Lys Gln Arg Cys Arg Ala Pro Ala Cys Asp  
                               755                              760                              765  
 His Phe Gly Asn Ala Lys Cys Asn Gly Tyr Cys Asn Glu Cys Phe Gln  
                               770                              775                              780  
 Phe Lys Gln Met Tyr Gly  
 785                              790

<210> 15  
 <211> 831  
 <212> DNA  
 <213> Homo sapience

<400> 15  
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 aaggatggaa tttttcataa ctccatatgg ctlgaacgag cagccggltg gtaccacaga 120  
 gaagcacggt ctggcaaata caagctcacc tacgcagaag ctaaggcggg gtgtgaattt 180  
 gaaggcggcc atctcgcaac ttacaagcag ctagaggcag ccagaaaaat tggatttcat 240  
 gtctgtgctg ctggatggat ggctaaagggc agagltggat accccattgt gaagccaggg 300  
 cccaactgig gatttggaaa aactggcatt attgattatg gaatccgtct caataggagl 360  
 gaaagatggg aigcciatig ctacaaccca cagcgaagg agtgtgtgtg cgtctttaca 420  
 gatccaaagc aaatttttaa atctccaggc ttcccaaalg agtacgaaga taaccaaate 480  
 tgctactggc acattagact caagtatggt cagcglattc acctgagttt tttagatttt 540  
 gaccttgaag atgaccaggg ttgcttggct gattatgttg aaatatatga cagttacgat 600  
 gatgtccatg gctttgiggg aagatactgt ggagatgagc ttccagatga catcatcagt 660  
 acaggaaatg tcatgacctt gaagtttcta aglgaatgct cagtacagc tggaggttct 720  
 caaatcaaat atgttgcaat ggatccigta iccaaateca gtcaaggaaa aaatacaagt 780  
 actacttcta ctggaaataa aaacttttta gctggaagat ttagccactt a 831

<210> 16  
 <211> 277  
 <212> PRT  
 <213> Homo sapience

<400> 16  
 Met Ile Ile Leu Ile Tyr Leu Phe Leu Leu Leu Trp Glu Asp Thr Gln  
                               5                              10                              15  
 Gly Trp Gly Phe Lys Asp Gly Ile Phe His Asn Ser Ile Trp Leu Glu  
                               20                              25                              30  
 Arg Ala Ala Gly Val Tyr His Arg Glu Ala Arg Ser Gly Lys Tyr Lys  
                               35                              40                              45  
 Leu Thr Tyr Ala Glu Ala Lys Ala Val Cys Glu Phe Glu Gly Gly His  
                               50                              55                              60  
 Leu Ala Thr Tyr Lys Gln Leu Glu Ala Ala Arg Lys Ile Gly Phe His

65		70		75		80									
Val	Cys	Ala	Ala	Gly	Trp	Met	Ala	Lys	Gly	Arg	Val	Gly	Tyr	Pro	Ile
		85		90		95									
Val	Lys	Pro	Gly	Pro	Asn	Cys	Gly	Phe	Gly	Lys	Thr	Gly	Ile	Ile	Asp
		100		105		110									
Tyr	Gly	Ile	Arg	Leu	Asn	Arg	Ser	Glu	Arg	Trp	Asp	Ala	Tyr	Cys	Tyr
		115		120		125									
Asn	Pro	His	Ala	Lys	Glu	Cys	Gly	Gly	Val	Phe	Thr	Asp	Pro	Lys	Gln
		130		135		140									
Ile	Phe	Lys	Ser	Pro	Gly	Phe	Pro	Asn	Glu	Tyr	Glu	Asp	Asn	Gln	Ile
145				150		155									160
Cys	Tyr	Trp	His	Ile	Arg	Leu	Lys	Tyr	Gly	Gln	Arg	Ile	His	Leu	Ser
		165		170		175									
Phe	Leu	Asp	Phe	Asp	Leu	Glu	Asp	Asp	Pro	Gly	Cys	Leu	Ala	Asp	Tyr
		180		185		190									
Val	Glu	Ile	Tyr	Asp	Ser	Tyr	Asp	Asp	Val	His	Gly	Phe	Val	Gly	Arg
		195		200		205									
Tyr	Cys	Gly	Asp	Glu	Leu	Pro	Asp	Asp	Ile	Ile	Ser	Thr	Gly	Asn	Val
		210		215		220									
Met	Thr	Leu	Lys	Phe	Leu	Ser	Asp	Ala	Ser	Val	Thr	Ala	Gly	Gly	Phe
225				230		235									240
Gln	Ile	Lys	Tyr	Val	Ala	Met	Asp	Pro	Val	Ser	Lys	Ser	Ser	Gln	Gly
		245		250		255									
Lys	Asn	Thr	Ser	Thr	Thr	Ser	Thr	Gly	Asn	Lys	Asn	Phe	Leu	Ala	Gly
		260		265		270									
Arg	Phe	Ser	His	Leu											
		275													

<210> 17  
 <211> 468  
 <212> DNA  
 <213> Homo sapience

<400> 17	
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ctcccgagc ccgcagcggc cctgcgggg cgccccagcg cctctcgcgg gcaccgaaag	180
cgcagccgca gggtctctta cctctgagtg gtccggcgcc agctgccagl cgaggaaccg	240
aaccagcca aaaggcttct ctltctgtg ctcaccatcg tcttctgcca gatcctgatg	300
gctgaagagg gtgtgccggc gccccctgct ccagaggacg cccctaacgc cgcctccctg	360
gcgcccacc cigtgtcccc cgtctctgag ccttttaac tgacttcgga gccctcggac	420
tacgtcttgg accctcagcac ttctctccag caacaccg cgccttc	468

<210> 18  
 <211> 156  
 <212> PRT  
 <213> Homo sapience

<400> 18

Met	Cys	His	Ser	Arg	Ser	Cys	His	Pro	Thr	Met	Thr	Ile	Leu	Gln	Ala
				5					10					15	
Pro	Thr	Pro	Ala	Pro	Ser	Thr	Ile	Pro	Gly	Pro	Arg	Arg	Gly	Ser	Gly
			20					25					30		
Pro	Glu	Ile	Phe	Thr	Phe	Asp	Pro	Leu	Pro	Glu	Pro	Ala	Ala	Ala	Pro
		35					40					45			
Ala	Gly	Arg	Pro	Ser	Ala	Ser	Arg	Gly	His	Arg	Lys	Arg	Ser	Arg	Arg
	50					55					60				
Val	Leu	Tyr	Pro	Arg	Val	Val	Arg	Arg	Gln	Leu	Pro	Val	Glu	Glu	Pro
65					70					75					80
Asn	Pro	Ala	Lys	Arg	Leu	Leu	Phe	Leu	Leu	Leu	Thr	Ile	Val	Phe	Cys
				85					90					95	
Gln	Ile	Leu	Met	Ala	Glu	Glu	Gly	Val	Pro	Ala	Pro	Leu	Pro	Pro	Glu
			100					105					110		
Asp	Ala	Pro	Asn	Ala	Ala	Ser	Leu	Ala	Pro	Thr	Pro	Val	Ser	Pro	Val
		115					120					125			
Leu	Glu	Pro	Phe	Asn	Leu	Thr	Ser	Glu	Pro	Ser	Asp	Tyr	Ala	Leu	Asp
	130					135					140				
Leu	Ser	Thr	Phe	Leu	Gln	Gln	His	Pro	Ala	Ala	Phe				
145					150					155					

<210> 19

<211> 495

<212> DNA

<213> Homo sapience

<400> 19

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gatgcccttg	aggaagtgt	cagcaaagcc	ctgagtcagc	gcacgatcac	igtcggggtg	120
tacgaagcgg	ccaagctgt	caacgtcgac	cccgataacg	tgggtgtgtg	cctgctggcg	180
gcggacgagg	acgacgacag	agatgtggct	ctgcagatcc	acttcaccc	gatccaggcg	240
ttltgtctcg	agaacgacat	caacatccctg	cgcgtcagca	acccggggccg	gctggcggag	300
ctcctgtct	lggagaccga	cgctggcccc	gcggcgagcg	agggcgccga	gcagcccccg	360
gacctgcact	gcgtgtgtgt	gacgaatcca	catcatctc	aalgggaagga	tccctgccit	420
agtcaactta	ttlgtttttg	ccgggaaagt	cgctacatgg	atcaatgggt	tccagtgtat	480
aatctccctg	aacgg					495

<210> 20

<211> 165

<212> PRT

<213> Homo sapience

<400> 20

Met	Thr	Leu	Glu	Glu	Phe	Ser	Ala	Gly	Glu	Gln	Lys	Thr	Glu	Arg	Met
				5					10					15	

Asp Lys Val Gly Asp Ala Leu Glu Glu Val Leu Ser Lys Ala Leu Ser  
                   20                                  25                                  30  
 Gln Arg Thr Ile Thr Val Gly Val Tyr Glu Ala Ala Lys Leu Leu Asn  
                   35                                  40                                  45  
 Val Asp Pro Asp Asn Val Val Leu Cys Leu Leu Ala Ala Asp Glu Asp  
                   50                                  55                                  60  
 Asp Asp Arg Asp Val Ala Leu Gln Ile His Phe Thr Leu Ile Gln Ala  
                   65                                  70                                  75                                  80  
 Phe Cys Cys Glu Asn Asp Ile Asn Ile Leu Arg Val Ser Asn Pro Gly  
                                   85                                  90                                  95  
 Arg Leu Ala Glu Leu Leu Leu Leu Glu Thr Asp Ala Gly Pro Ala Ala  
                                   100                                  105                                  110  
 Ser Glu Gly Ala Glu Gln Pro Pro Asp Leu His Cys Val Leu Val Thr  
                                   115                                  120                                  125  
 Asn Pro His Ser Ser Gln Trp Lys Asp Pro Ala Leu Ser Gln Leu Ile  
                                   130                                  135                                  140  
 Cys Phe Cys Arg Glu Ser Arg Tyr Met Asp Gln Trp Val Pro Val Ile  
                                   145                                  150                                  155                                  160  
 Asn Leu Pro Glu Arg  
                                   165

<210> 21  
 <211> 480  
 <212> DNA  
 <213> Homo sapience

<400> 21  
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 gccgcggtgg aggagcttiti ggtggccgct cagcgccagg atcgccctcac agtgggggtg 120  
 tacgagtcgg ccaagttgat gaatgtggac ccagacagcg tggtcctctg cctcttggcc 180  
 atlgacgagg aggaggagga tgacatcgcc ctgcaaatcc acttcacgct catccagtcc 240  
 ttctgctgtg acaacgacat caacatcgtg cgggtgtcgg gcatgcagcg cctgggcgag 300  
 ctcttgggag agccggccga gaccagggc accaccgagg cccgagacct gcattgtctc 360  
 ctggtcacga accctcacac ggacgccctg aagagccacg gcttgggtgga ggtggccagc 420  
 tactgcgaag aaagccgggg caacaaccag tgggtccctt acatctctct tcaggaacgc 480

<210> 22  
 <211> 160  
 <212> PRT  
 <213> Homo sapience

<400> 22  
 Met Thr Leu Glu Glu Leu Val Ala Cys Asp Asn Ala Ala Gln Lys Met  
                   5                                  10                                  15  
 Gln Thr Val Thr Ala Ala Val Glu Glu Leu Leu Val Ala Ala Gln Arg  
                   20                                  25                                  30  
 Gln Asp Arg Leu Thr Val Gly Val Tyr Glu Ser Ala Lys Leu Met Asn





65					70					75					80
Leu	Phe	Leu	Gly	Ile	His	Gly	Gly	Lys	Met	Cys	Leu	Ser	Cys	Val	Lys
				85					90					95	
Ser	Gly	Asp	Glu	Thr	Arg	Leu	Gln	Leu	Glu	Ala	Val	Asn	Ile	Thr	Asp
			100					105					110		
Leu	Ser	Glu	Asn	Arg	Lys	Gln	Asp	Lys	Arg	Phe	Ala	Phe	Ile	Arg	Ser
		115					120				125				
Asp	Ser	Gly	Pro	Thr	Thr	Ser	Phe	Glu	Ser	Ala	Ala	Cys	Pro	Gly	Trp
		130				135				140					
Phe	Leu	Cys	Thr	Ala	Met	Glu	Ala	Asp	Gln	Pro	Val	Ser	Leu	Thr	Asn
145					150				155					160	
Met	Pro	Asp	Glu	Gly	Val	Met	Val	Thr	Lys	Phe	Tyr	Phe	Gln	Glu	Asp
				165					170				175		

Glu

<210> 25  
 <211> 594  
 <212> DNA  
 <213> Homo sapience

<400> 25	
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gggaccgcgg ggtcggcgga ggagccatcc ccgcaggcgg cgcgtctggc gaaggccctg	120
cgggagctcg gtcagacagg atggtactgg ggaagtaatga ctgttaatga agccaaagag	180
aaattaaaag aggcaccaga aggaacttgc ttgattagag atagctcgca ttcagactac	240
ctactaacia tatctgttaa aacatcagct ggaccaacta atcttcgaat cgaataccaa	300
gacggaaaat tcagattigga ctctatcata tgtgicaaat ccaagcttaa acaatttgac	360
agtgtgggtc atctgacga ctactatggt cagatgtgca aggataagcg gacaggicca	420
gaagccccc ggaacggcac tgttcacctt tatctgacca aaccgctcga cagctcagca	480
ccatctctgc agcatctctg taggcctcacc attaacaaat gtaccgggtgc catctgggga	540
ctgcccttac caacaagact aaaagattac ttggaagaat ataaattcca ggta	594

<210> 26  
 <211> 198  
 <212> PRT  
 <213> Homo sapience

<400> 26	
Met Thr Leu Arg Cys Leu Glu Pro Ser Gly Asn Gly Gly Glu Gly Thr	
	5 10 15
Arg Ser Gln Trp Gly Thr Ala Gly Ser Ala Glu Glu Pro Ser Pro Gln	
	20 25 30
Ala Ala Arg Leu Ala Lys Ala Leu Arg Glu Leu Gly Gln Thr Gly Trp	
	35 40 45
Tyr Trp Gly Ser Met Thr Val Asn Glu Ala Lys Glu Lys Leu Lys Glu	
	50 55 60
Ala Pro Glu Gly Thr Phe Leu Ile Arg Asp Ser Ser His Ser Asp Tyr	

65		70		75		80									
Leu	Leu	Thr	Ile	Ser	Val	Lys	Thr	Ser	Ala	Gly	Pro	Thr	Asn	Leu	Arg
				85					90					95	
Ile	Glu	Tyr	Gln	Asp	Gly	Lys	Phe	Arg	Leu	Asp	Ser	Ile	Ile	Cys	Val
			100					105					110		
Lys	Ser	Lys	Leu	Lys	Gln	Phe	Asp	Ser	Val	Val	His	Leu	Ile	Asp	Tyr
		115					120					125			
Tyr	Val	Gln	Met	Cys	Lys	Asp	Lys	Arg	Thr	Gly	Pro	Glu	Ala	Pro	Arg
	130					135					140				
Asn	Gly	Thr	Val	His	Leu	Tyr	Leu	Thr	Lys	Pro	Leu	Tyr	Thr	Ser	Ala
145					150					155				160	
Pro	Ser	Leu	Gln	His	Leu	Cys	Arg	Leu	Thr	Ile	Asn	Lys	Cys	Thr	Gly
			165					170						175	
Ala	Ile	Trp	Gly	Leu	Pro	Leu	Pro	Thr	Arg	Leu	Lys	Asp	Tyr	Leu	Glu
		180						185					190		
Glu	Tyr	Lys	Phe	Gln	Val										
		195													

<210> 27  
 <211> 675  
 <212> DNA  
 <213> Homo sapience

<400> 27

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cgctcaaga	cttcagctc	caagagcgag	taccagctgg	tggtagaacg	agtgcgcaag	120
cigcaggaga	gcggcttcta	ctggagcgca	gtagccggcg	gcgaggcgaa	ccctgctgctc	180
agtgcgagc	ccgccggcac	ctttctgac	cgcgacagc	cggaccagcg	ccacttcttc	240
acgctcagcg	tcaagaccca	gtctgggacc	aagaacctgc	gcatccagtg	tgaggggggc	300
agcttctctc	tgcagagcga	tccccggagc	acgcagcccg	tgcctccgtt	cgactgcgtg	360
ctcaagcigg	igtaccacta	catgccgccc	ctggagcgc	cttcttccc	ctcgccacct	420
actgaaccci	cttccgaggt	gccccgagcag	ccgtctgccc	agccactccc	tgggagtcct	480
cccagaagag	cctattacat	ctactccggg	ggcgagaaga	tccccctggt	gttgagccgg	540
ccccctctcc	ccaacgtggc	cactcttcag	catctctgtc	ggaagaccgt	caacggccac	600
ciggacttcc	atgagaaagt	caccagctg	ccggggccca	tccgggagtt	cttgaccag	660
tacgatgccc	cgctt					675

<210> 28  
 <211> 225  
 <212> PRT  
 <213> Homo sapience

<400> 28

Met	Val	Thr	His	Ser	Lys	Phe	Pro	Ala	Ala	Gly	Met	Ser	Arg	Pro	Leu
				5					10					15	
Asp	Thr	Ser	Leu	Arg	Leu	Lys	Thr	Phe	Ser	Ser	Lys	Ser	Glu	Tyr	Gln
			20					25					30		

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 Ala Gly Thr Phe Leu Ile Arg Asp Ser Ser Asp Gln Arg His Phe Phe  
   65                                  70                                  75                                  80  
 Thr Leu Ser Val Lys Thr Gln Ser Gly Thr Lys Asn Leu Arg Ile Gln  
                                   85                                  90                                  95  
 Cys Glu Gly Gly Ser Phe Ser Leu Gln Ser Asp Pro Arg Ser Thr Gln  
                                   100                                  105                                  110  
 Pro Val Pro Arg Phe Asp Cys Val Leu Lys Leu Val Tyr His Tyr Met  
           115                                  120                                  125  
 Pro Pro Pro Gly Ala Pro Ser Phe Pro Ser Pro Pro Thr Glu Pro Ser  
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 Ser Glu Val Pro Glu Gln Pro Ser Ala Gln Pro Leu Pro Gly Ser Pro  
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 Pro Arg Arg Ala Tyr Tyr Ile Tyr Ser Gly Gly Glu Lys Ile Pro Leu  
                                   165                                  170                                  175  
 Val Leu Ser Arg Pro Leu Ser Ser Asn Val Ala Thr Leu Gln His Leu  
                                   180                                  185                                  190  
 Cys Arg Lys Thr Val Asn Gly His Leu Asp Ser Tyr Glu Lys Val Thr  
           195                                  200                                  205  
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 <211> 1524  
 <212> DNA  
 <213> Homo sapience

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<210> 30

<211> 508

<212> PRT

<213> Homo sapience

<400> 30

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Ser Gln Tyr Gly Tyr Leu Gln Lys Pro Leu Glu Gly Ser Asn Asn Phe
          35              40              45
Lys Pro Glu Asp Ile Thr Glu Ala Leu Arg Ala Phe Gln Glu Ala Ser
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Glu Leu Pro Val Ser Gly Gln Leu Asp Asp Ala Thr Arg Ala Arg Met
          65              70              75              80
Arg Gln Pro Arg Cys Gly Leu Glu Asp Pro Phe Asn Gln Lys Thr Leu
          85              90              95
Lys Tyr Leu Leu Leu Gly Arg Trp Arg Lys Lys His Leu Thr Phe Arg
          100             105             110
Ile Leu Asn Leu Pro Ser Thr Leu Pro Pro His Thr Ala Arg Ala Ala
          115             120             125
Leu Arg Gln Ala Phe Gln Asp Trp Ser Asn Val Ala Pro Leu Thr Phe
          130             135             140
Gln Glu Val Gln Ala Gly Ala Ala Asp Ile Arg Leu Ser Phe His Gly
          145             150             155             160
Arg Gln Ser Ser Tyr Cys Ser Asn Thr Phe Asp Gly Pro Gly Arg Val
          165             170             175
Leu Ala His Ala Asp Ile Pro Glu Leu Gly Ser Val His Phe Asp Glu
          180             185             190
Asp Glu Phe Trp Thr Glu Gly Thr Tyr Arg Gly Val Asn Leu Arg Ile
          195             200             205
Ile Ala Ala His Glu Val Gly His Ala Leu Gly Leu Gly His Ser Arg
          210             215             220

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<211> 314

<212> PRT

<213> Homo sapience

<400> 32

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			20					25					30			
Arg	Pro	Phe	Leu	Ala	Phe	Cys	Arg	Arg	His	Val	Arg	Ala	Ala	Arg	Pro	
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Val	Pro	Trp	Asn	Ala	Leu	Leu	Arg	Arg	Arg	Ala	Arg	Gly	Pro	Pro	Ala	
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Ala	Val	Leu	Ala	Cys	Leu	Leu	Pro	Asp	Arg	Ala	Leu	Arg	Thr	Arg	Leu	
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Val	Arg	Gly	Glu	Leu	Ala	Arg	Ala	Val	Val	Leu	Asp	Glu	Gly	Ser	Ala	
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Ser	Val	Ala	Glu	Leu	Arg	Pro	Asp	Ser	Pro	Ala	His	Val	Leu	Leu	Ala	
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Ala	Leu	Leu	His	Glu	Thr	Arg	Ala	Gly	Pro	Thr	Ala	Val	Tyr	Phe	Leu	
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Arg	Gly	Gly	Phe	Asp	Gly	Phe	Gln	Gly	Cys	Cys	Pro	Asp	Leu	Cys	Ser	
	130				135						140					
Glu	Ala	Pro	Ala	Pro	Ala	Leu	Pro	Pro	Thr	Gly	Asp	Lys	Thr	Ser	Arg	
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Ser	Asp	Ser	Arg	Ala	Pro	Val	Tyr	Asp	Gln	Gly	Gly	Pro	Val	Glu	Ile	
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Leu	Pro	Tyr	Leu	Phe	Leu	Gly	Ser	Cys	Ser	His	Ser	Ser	Asp	Leu	Gln	
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	195				200						205					
Cys	Pro	Asn	His	Phe	Glu	Gly	Leu	Phe	Arg	Tyr	Lys	Ser	Ile	Pro	Val	
	210				215						220					

Glu	Asp	Asn	Gln	Met	Val	Glu	Ile	Ser	Ala	Trp	Phe	Gln	Glu	Ala	Ile
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Gly	Phe	Ile	Asp	Trp	Val	Lys	Asn	Ser	Gly	Gly	Arg	Val	Leu	Val	His
			245						250					255	
Cys	Gln	Ala	Gly	Ile	Ser	Arg	Ser	Ala	Thr	Ile	Cys	Leu	Ala	Tyr	Leu
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Met	Gln	Ser	Arg	Arg	Val	Arg	Leu	Asp	Glu	Ala	Phe	Asp	Phe	Val	Lys
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Gln	Arg	Arg	Gly	Val	Ile	Ser	Pro	Asn	Phe	Ser	Phe	Met	Gly	Gln	Leu
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<210> 33  
 <211> 1152  
 <212> DNA  
 <213> Homo sapience

<400> 33

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<210> 34  
 <211> 384  
 <212> PRT  
 <213> Homo sapience

<400> 34

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				5					10					15			
Lys	Glu	Ala	Ala	Ala	Arg	Cys	Val	Val	Leu	Asp	Cys	Arg	Pro	Tyr	Leu		
			20						25					30			
Ala	Phe	Ala	Ala	Ser	Asn	Val	Arg	Gly	Ser	Leu	Asn	Val	Asn	Leu	Asn		
		35					40					45					
Ser	Val	Val	Leu	Arg	Arg	Ala	Arg	Gly	Gly	Ala	Val	Ser	Ala	Arg	Tyr		
	50					55					60						
Val	Leu	Pro	Asp	Glu	Ala	Ala	Arg	Ala	Arg	Leu	Leu	Gln	Glu	Gly	Gly		
	65				70					75					80		
Gly	Gly	Val	Ala	Ala	Val	Val	Val	Leu	Asp	Gln	Gly	Ser	Arg	His	Trp		
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Gln	Lys	Leu	Arg	Glu	Glu	Ser	Ala	Ala	Arg	Val	Val	Leu	Thr	Ser	Leu		
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Leu	Ala	Cys	Leu	Pro	Ala	Gly	Pro	Arg	Val	Tyr	Phe	Leu	Lys	Gly	Gly		
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Tyr	Glu	Thr	Phe	Tyr	Ser	Glu	Tyr	Pro	Glu	Cys	Cys	Val	Asp	Val	Lys		
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Pro	Ile	Ser	Gln	Glu	Lys	Ile	Glu	Ser	Glu	Arg	Ala	Leu	Ile	Ser	Gln		
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Cys	Gly	Lys	Pro	Val	Val	Asn	Val	Ser	Tyr	Arg	Pro	Ala	Tyr	Asp	Gln		
			165						170					175			
Gly	Gly	Pro	Val	Glu	Ile	Leu	Pro	Phe	Leu	Tyr	Leu	Gly	Ser	Ala	Tyr		
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His	Ala	Ser	Lys	Cys	Glu	Phe	Leu	Ala	Asn	Leu	His	Ile	Thr	Ala	Leu		
		195					200					205					
Leu	Asn	Val	Ser	Arg	Arg	Thr	Ser	Glu	Ala	Cys	Met	Thr	His	Leu	His		
	210					215					220						
Tyr	Lys	Trp	Ile	Pro	Val	Glu	Asp	Ser	His	Thr	Ala	Asp	Ile	Ser	Ser		
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Ile	Cys	Met	Ala	Tyr	Leu	Met	Lys	Thr	Lys	Gln	Phe	Arg	Leu	Lys	Glu		
		275					280					285					
Ala	Phe	Asp	Tyr	Ile	Lys	Gln	Arg	Arg	Ser	Met	Val	Ser	Pro	Asn	Phe		
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Thr	Pro	Asn	Pro	Gln	Pro	Pro	Ser	Cys	Gln	Gly	Glu	Ala	Ala	Gly	Ser		
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Tyr	Cys	Thr	Phe	Pro	Ala	Ser	Val	Leu	Ala	Pro	Val	Pro	Thr	His	Ser		
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Thr	Val	Ser	Glu	Leu	Ser	Arg	Ser	Pro	Val	Ala	Thr	Ala	Thr	Ser	Cys		
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$\langle 210 \rangle$  36  
 $\langle 211 \rangle$  247  
 $\langle 212 \rangle$  PRT  
 $\langle 213 \rangle$  Homo sapience

<400> 36															
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			20					25					30		
Arg	Val	Ala	Ala	Gln	Asn	Ser	Ala	Glu	Val	Val	Arg	Cys	Leu	Asn	Ser
			35				40					45			
Ala	Leu	Gln	Val	Gly	Cys	Gly	Ala	Phe	Ala	Cys	Leu	Glu	Asn	Ser	Thr
	50					55					60				
Cys	Asp	Thr	Asp	Gly	Met	Tyr	Asp	Ile	Cys	Lys	Ser	Phe	Leu	Tyr	Ser
65					70					75				80	
Ala	Ala	Lys	Phe	Asp	Thr	Gln	Gly	Lys	Ala	Phe	Val	Lys	Glu	Ser	Leu
				85					90					95	
Lys	Cys	Ile	Ala	Asn	Gly	Val	Thr	Ser	Lys	Val	Phe	Leu	Ala	Ile	Arg
			100					105					110		
Arg	Cys	Ser	Thr	Phe	Gln	Arg	Met	Ile	Ala	Glu	Val	Gln	Glu	Glu	Cys
		115					120					125			
Tyr	Ser	Lys	Leu	Asn	Val	Cys	Ser	Ile	Ala	Lys	Arg	Asn	Pro	Glu	Ala
	130					135					140				
Ile	Thr	Glu	Val	Val	Gln	Leu	Pro	Asn	His	Phe	Ser	Asn	Arg	Tyr	Tyr
145					150					155					160

Asn	Arg	Leu	Val	Arg	Ser	Leu	Leu	Glu	Cys	Asp	Glu	Asp	Thr	Val	Ser
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Thr	Ile	Arg	Asp	Ser	Leu	Met	Glu	Lys	Ile	Gly	Pro	Asn	Met	Ala	Ser
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Leu	Phe	His	Ile	Leu	Gln	Thr	Asp	His	Cys	Ala	Gln	Thr	His	Pro	Arg
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Ala	Asp	Phe	Asn	Arg	Arg	Arg	Thr	Asn	Glu	Pro	Gln	Lys	Leu	Lys	Val
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Leu	Leu	Arg	Asn	Leu	Arg	Gly	Glu	Glu	Asp	Ser	Pro	Ser	His	Ile	Lys
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<211> 2580

<212> DNA

<213> Homo sapience

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acagatatca tcaacgaagc catlltcagt gccaacggcc tcacaggltc cgaigtcaac 1920
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<210> 38

<211> 860

<212> PRT

<213> Homo sapience

<400> 38

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Ala Ala Ala Gly Thr Ala Val Gly Asp Arg Cys Glu Arg Asn Glu Phe
      20                      25                      30
Gln Cys Gln Asp Gly Lys Cys Ile Ser Tyr Lys Trp Val Cys Asp Gly
      35                      40                      45
Ser Ala Glu Cys Gln Asp Gly Ser Asp Glu Ser Gln Glu Thr Cys Leu
      50                      55                      60
Ser Val Thr Cys Lys Ser Gly Asp Phe Ser Cys Gly Gly Arg Val Asn
      65                      70                      75                      80
Arg Cys Ile Pro Gln Phe Trp Arg Cys Asp Gly Gln Val Asp Cys Asp
      85                      90                      95
Asn Gly Ser Asp Glu Gln Gly Cys Pro Lys Thr Cys Ser Gln Asp
      100                     105                     110
Glu Phe Arg Cys His Asp Gly Lys Cys Ile Ser Arg Gln Phe Val Cys
      115                     120                     125
Asp Ser Asp Arg Asp Cys Leu Asp Gly Ser Asp Glu Ala Ser Cys Pro
      130                     135                     140
Val Leu Thr Cys Gly Pro Ala Ser Phe Gln Cys Asn Ser Ser Thr Cys
      145                     150                     155                     160
Ile Pro Gln Leu Trp Ala Cys Asp Asn Asp Pro Asp Cys Glu Asp Gly
      165                     170                     175
Ser Asp Glu Trp Pro Gln Arg Cys Arg Gly Leu Tyr Val Phe Gln Gly
      180                     185                     190
Asp Ser Ser Pro Cys Ser Ala Phe Glu Phe His Cys Leu Ser Gly Glu

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	195						200						205						
Cys	Ile	His	Ser	Ser	Trp	Arg	Cys	Asp	Gly	Gly	Pro	Asp	Cys	Lys	Asp				
	210						215					220							
Lys	Ser	Asp	Glu	Glu	Asn	Cys	Ala	Val	Ala	Thr	Cys	Arg	Pro	Asp	Glu				
225					230					235					240				
Phe	Gln	Cys	Ser	Asp	Gly	Asn	Cys	Ile	His	Gly	Ser	Arg	Gln	Cys	Asp				
				245					250					255					
Arg	Glu	Tyr	Asp	Cys	Lys	Asp	Met	Ser	Asp	Glu	Val	Gly	Cys	Val	Asn				
			260				265						270						
Val	Thr	Leu	Cys	Glu	Gly	Pro	Asn	Lys	Phe	Lys	Cys	His	Ser	Gly	Glu				
	275						280					285							
Cys	Ile	Thr	Leu	Asp	Lys	Val	Cys	Asn	Met	Ala	Arg	Asp	Cys	Arg	Asp				
290						295				300									
Trp	Ser	Asp	Glu	Pro	Ile	Lys	Glu	Cys	Gly	Thr	Asn	Glu	Cys	Leu	Asp				
305					310					315					320				
Asn	Asn	Gly	Gly	Cys	Ser	His	Val	Cys	Asn	Asp	Leu	Lys	Ile	Gly	Tyr				
				325					330					335					
Glu	Cys	Leu	Cys	Pro	Asp	Gly	Phe	Gln	Leu	Val	Ala	Gln	Arg	Arg	Cys				
			340				345						350						
Glu	Asp	Ile	Asp	Glu	Cys	Gln	Asp	Pro	Asp	Thr	Cys	Ser	Gln	Leu	Cys				
	355					360				365									
Val	Asn	Leu	Glu	Gly	Gly	Tyr	Lys	Cys	Gln	Cys	Glu	Glu	Gly	Phe	Gln				
	370					375				380									
Leu	Asp	Pro	His	Thr	Lys	Ala	Cys	Lys	Ala	Val	Gly	Ser	Ile	Ala	Tyr				
385					390					395					400				
Leu	Phe	Phe	Thr	Asn	Arg	His	Glu	Val	Arg	Lys	Met	Thr	Leu	Asp	Arg				
			405						410					415					
Ser	Glu	Tyr	Thr	Ser	Leu	Ile	Pro	Asn	Leu	Arg	Asn	Val	Val	Ala	Leu				
			420					425					430						
Asp	Thr	Glu	Val	Ala	Ser	Asn	Arg	Ile	Tyr	Trp	Ser	Asp	Leu	Ser	Gln				
	435					440						445							
Arg	Met	Ile	Cys	Ser	Thr	Gln	Leu	Asp	Arg	Ala	His	Gly	Val	Ser	Ser				
	450					455				460									
Tyr	Asp	Thr	Val	Ile	Ser	Arg	Asp	Ile	Gln	Ala	Pro	Asp	Gly	Leu	Ala				
465					470					475					480				
Val	Asp	Trp	Ile	His	Ser	Asn	Ile	Tyr	Trp	Thr	Asp	Ser	Val	Leu	Gly				
			485					490						495					
Thr	Val	Ser	Val	Ala	Asp	Thr	Lys	Gly	Val	Lys	Arg	Lys	Thr	Leu	Phe				
			500				505						510						
Arg	Glu	Asn	Gly	Ser	Lys	Pro	Arg	Ala	Ile	Val	Val	Asp	Pro	Val	His				
	515						520					525							
Gly	Phe	Met	Tyr	Trp	Thr	Asp	Trp	Gly	Thr	Pro	Ala	Lys	Ile	Lys	Lys				
	530					535				540									
Gly	Gly	Leu	Asn	Gly	Val	Asp	Ile	Tyr	Ser	Leu	Val	Thr	Glu	Asn	Ile				
545					550					555					560				
Gln	Trp	Pro	Asn	Gly	Ile	Thr	Leu	Asp	Leu	Leu	Ser	Gly	Arg	Leu	Tyr				
			565					570						575					

Trp	Val	Asp	Ser	Lys	Leu	His	Ser	Ile	Ser	Ser	Ile	Asp	Val	Asn	Gly	
			580					585					590			
Gly	Asn	Arg	Lys	Thr	Ile	Leu	Glu	Asp	Glu	Lys	Arg	Leu	Ala	His	Pro	
		595					600					605				
Phe	Ser	Leu	Ala	Val	Phe	Glu	Asp	Lys	Val	Phe	Trp	Thr	Asp	Ile	Ile	
	610					615					620					
Asn	Glu	Ala	Ile	Phe	Ser	Ala	Asn	Arg	Leu	Thr	Gly	Ser	Asp	Val	Asn	
625					630					635					640	
Leu	Leu	Ala	Glu	Asn	Leu	Leu	Ser	Pro	Glu	Asp	Met	Val	Leu	Phe	His	
			645						650					655		
Asn	Leu	Thr	Gln	Pro	Arg	Gly	Val	Asn	Trp	Cys	Glu	Arg	Thr	Thr	Leu	
		660						665					670			
Ser	Asn	Gly	Gly	Cys	Gln	Tyr	Leu	Cys	Leu	Pro	Ala	Pro	Gln	Ile	Asn	
		675					680					685				
Pro	His	Ser	Pro	Lys	Phe	Thr	Cys	Ala	Cys	Pro	Asp	Gly	Met	Leu	Leu	
	690					695					700					
Ala	Arg	Asp	Met	Arg	Ser	Cys	Leu	Thr	Glu	Ala	Glu	Ala	Ala	Val	Ala	
705					710					715					720	
Thr	Gln	Glu	Thr	Ser	Thr	Val	Arg	Leu	Lys	Val	Ser	Ser	Thr	Ala	Val	
			725						730					735		
Arg	Thr	Gln	His	Thr	Thr	Thr	Arg	Pro	Val	Pro	Asp	Thr	Ser	Arg	Leu	
		740						745					750			
Pro	Gly	Ala	Thr	Pro	Gly	Leu	Thr	Thr	Val	Glu	Ile	Val	Thr	Met	Ser	
	755					760						765				
His	Gln	Ala	Leu	Gly	Asp	Val	Ala	Gly	Arg	Gly	Asn	Glu	Lys	Lys	Pro	
	770					775					780					
Ser	Ser	Val	Arg	Ala	Leu	Ser	Ile	Val	Leu	Pro	Ile	Val	Leu	Leu	Val	
785					790					795					800	
Phe	Leu	Cys	Leu	Gly	Val	Phe	Leu	Leu	Trp	Lys	Asn	Trp	Arg	Leu	Lys	
			805						810					815		
Asn	Ile	Asn	Ser	Ile	Asn	Phe	Asp	Asn	Pro	Val	Tyr	Gln	Lys	Thr	Thr	
		820						825					830			
Glu	Asp	Glu	Val	His	Ile	Cys	His	Asn	Gln	Asp	Gly	Tyr	Ser	Tyr	Pro	
	835						840					845				
Ser	Arg	Gln	Met	Val	Ser	Leu	Glu	Asp	Asp	Val	Ala					
	850					855					860					

<210> 39

<211> 1320

<212> DNA

<213> Homo sapience

<400> 39

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gttgctgccc	cggtcctgct	gttggtctca	gctgagtcig	ctctgatcac	ccaacaagac	180
ctagctcccc	agcagagagt	ggccccacaa	caaagagggt	ccagccccctc	agagggattg	240

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tgcaccctg gacaccatc ctcagaagac ggtagagatt gcatctccg caaataatgga 300
caggactata gcactcactg gaatgacctc cttttctgci tgcgctgcac caggigtgat 360
tcagggtgaag tggagctaaag tcccigcacc acgaccagaa acacagtgig tcagigcgaa 420
gaaggcaccti tccgggaaga agattctcct gagatgtgcc ggaagtgccg cacagggtgt 480
cccagaggga tggtaagggt cggtgatgt acaccttgga gtagatcga atgtgtccac 540
aaagaatcag gtacaaagca cagtggggaa gccccagctg tggaggagac ggtgacctcc 600
agcccaggga ctccigccct tccctgttct cctcaggga tcatcatagg agtcacagtt 660
gcagccgtag tcttgatgt ggctgtgttt gtttgcaagt ctltactgig gaagaaagtc 720
cttcttacc tgaaggcat ctgctcaggt ggtgggtggg acctgagcg tgtggacaga 780
agctcacaac gacctggggc tgaggacaat gtctcaatg agatcgtgag tatctgcag 840
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aacatgtgt cccccggga gtacagagcat ctgctggaa cggcagaagc tgaagggtct 960
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acctgttaca cgaigtgat aaagtgggtc aacaaaaccg ggcgagatgc ctctgtccac 1200
acctgtctgg atgcttggga gacgtgtgga gagagacttg ccaagcagaa gattaggac 1260
cactgttga gctctggaaa gtctatgtat ctagaaggta atgcagactc tgccatgtcc 1320

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<210> 40

<211> 440

<212> PRT

<213> Homo sapience

<400> 40

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Met Glu Gln Arg Gly Gln Asn Ala Pro Ala Ala Ser Gly Ala Arg Lys
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Arg His Gly Pro Gly Pro Arg Glu Ala Arg Gly Ala Arg Pro Gly Leu
      20              25              30
Arg Val Pro Lys Thr Leu Val Leu Val Val Ala Ala Val Leu Leu Leu
      35              40              45
Val Ser Ala Glu Ser Ala Leu Ile Thr Gln Gln Asp Leu Ala Pro Gln
      50              55              60
Gln Arg Val Ala Pro Gln Gln Lys Arg Ser Ser Pro Ser Glu Gly Leu
      65              70              75              80
Cys Pro Pro Gly His His Ile Ser Glu Asp Gly Arg Asp Cys Ile Ser
      85              90              95
Cys Lys Tyr Gly Gln Asp Tyr Ser Thr His Trp Asn Asp Leu Leu Phe
      100             105             110
Cys Leu Arg Cys Thr Arg Cys Asp Ser Gly Glu Val Glu Leu Ser Pro
      115             120             125
Cys Thr Thr Thr Arg Asn Thr Val Cys Gln Cys Glu Glu Gly Thr Phe
      130             135             140
Arg Glu Glu Asp Ser Pro Glu Met Cys Arg Lys Cys Arg Thr Gly Cys
      145             150             155             160
Pro Arg Gly Met Val Lys Val Gly Asp Cys Thr Pro Trp Ser Asp Ile
      165             170             175

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Glu	Cys	Val	His	Lys	Glu	Ser	Gly	Thr	Lys	His	Ser	Gly	Glu	Ala	Pro			
			180					185					190					
Ala	Val	Glu	Glu	Thr	Val	Thr	Ser	Ser	Pro	Gly	Thr	Pro	Ala	Ser	Pro			
		195					200					205						
Cys	Ser	Leu	Ser	Gly	Ile	Ile	Ile	Gly	Val	Thr	Val	Ala	Ala	Val	Val			
	210					215					220							
Leu	Ile	Val	Ala	Val	Phe	Val	Cys	Lys	Ser	Leu	Leu	Trp	Lys	Lys	Val			
225					230					235					240			
Leu	Pro	Tyr	Leu	Lys	Gly	Ile	Cys	Ser	Gly	Gly	Gly	Gly	Asp	Pro	Glu			
				245					250					255				
Arg	Val	Asp	Arg	Ser	Ser	Gln	Arg	Pro	Gly	Ala	Glu	Asp	Asn	Val	Leu			
		260						265					270					
Asn	Glu	Ile	Val	Ser	Ile	Leu	Gln	Pro	Thr	Gln	Val	Pro	Glu	Gln	Glu			
	275						280					285						
Met	Glu	Val	Gln	Glu	Pro	Ala	Glu	Pro	Thr	Gly	Val	Asn	Met	Leu	Ser			
	290					295					300							
Pro	Gly	Glu	Ser	Glu	His	Leu	Leu	Glu	Pro	Ala	Glu	Ala	Glu	Arg	Ser			
305					310					315					320			
Gln	Arg	Arg	Arg	Leu	Leu	Val	Pro	Ala	Asn	Glu	Gly	Asp	Pro	Thr	Glu			
				325					330					335				
Thr	Leu	Arg	Gln	Cys	Phe	Asp	Asp	Phe	Ala	Asp	Leu	Val	Pro	Phe	Asp			
			340					345					350					
Ser	Trp	Glu	Pro	Leu	Met	Arg	Lys	Leu	Gly	Leu	Met	Asp	Asn	Glu	Ile			
	355						360					365						
Lys	Val	Ala	Lys	Ala	Glu	Ala	Ala	Gly	His	Arg	Asp	Thr	Leu	Tyr	Thr			
	370					375					380							
Met	Leu	Ile	Lys	Trp	Val	Asn	Lys	Thr	Gly	Arg	Asp	Ala	Ser	Val	His			
385					390					395					400			
Thr	Leu	Leu	Asp	Ala	Leu	Glu	Thr	Leu	Gly	Glu	Arg	Leu	Ala	Lys	Gln			
			405						410					415				
Lys	Ile	Glu	Asp	His	Leu	Leu	Ser	Ser	Gly	Lys	Phe	Met	Tyr	Leu	Glu			
			420					425					430					
Gly	Asn	Ala	Asp	Ser	Ala	Met	Ser											
	435						440											

<210> 41

<211> 387

<212> DNA

<213> Homo sapience

<400> 41

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ttgcctgcgt	ccgtggccgg	ggagcaagcg	ccaggcaccg	ccccctgctc	ccgcggcagc		120
tccitggagcg	cggacctgga	caagtgcattg	gactgcgcgt	cttgcagggc	gcgaccgcac		180
agcgacttct	gacctgggctg	cgtcgcagca	cttccctgccc	ccctccggct	gccttggccc		240
atccctgggg	gcgctctgag	ccigaccctc	gtgctggggc	tgctttcttg	cttttgggtc		300
tggagacgat	gccgcaggag	agagaagttc	accaccccca	tagaggagac	cggcggagag		360

&lt;210&gt; 42

&lt;211&gt; 129

&lt;212&gt; PRT

&lt;213&gt; Homo sapience

&lt;400&gt; 42

Met Ala Arg Gly Ser Leu Arg Arg Leu Leu Arg Leu Leu Val Leu Gly  
                           5                          10                          15  
 Leu Trp Leu Ala Leu Leu Arg Ser Val Ala Gly Glu Gln Ala Pro Gly  
                           20                          25                          30  
 Thr Ala Pro Cys Ser Arg Gly Ser Trp Ser Ala Asp Leu Asp Lys  
                           35                          40                          45  
 Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro His Ser Asp Phe Cys  
                           50                          55                          60  
 Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe Arg Leu Leu Trp Pro  
                           65                          70                          75                          80  
 Ile Leu Gly Gly Ala Leu Ser Leu Thr Phe Val Leu Gly Leu Leu Ser  
                           85                          90                          95  
 Gly Phe Leu Val Trp Arg Arg Cys Arg Arg Arg Glu Lys Phe Thr Thr  
                           100                          105                          110  
 Pro Ile Glu Glu Thr Gly Gly Glu Gly Cys Pro Ala Val Ala Leu Ile  
                           115                          120                          125  
 Gln

&lt;210&gt; 43

&lt;211&gt; 1401

&lt;212&gt; DNA

&lt;213&gt; Homo sapience

&lt;400&gt; 43

atggagtaca tgagcactgg aagtgacaat aaagaagaga ttgatitatt aattaaacat 60  
 ttaaatgigt ctgatgtaat agacattatg gaaaatcttt atgcaagtga agagccagca 120  
 gtllatgaac ccagtctaat gaccatgtgt caagacagta atcaaaacga tgagcgttct 180  
 aagtcicigc tgcitagtgg ccaagaggta ccatggttgt catcagtcag ataiggaact 240  
 gttgaggatt tgcitgcttt tgcaaaccat atatccaaca ctgcaaagca tttllatgga 300  
 caacgaccac aggaatctgg aatttttatta aacatgggtca tcactcccca aaatggacgt 360  
 taccaaaatag attccgatgt tctccigatc ccttgggaagc tgacttacag gaatattggt 420  
 tctgatitita ttctctgggg cgcttttggg aaggtatact tggcacaaga talaaagacg 480  
 aagaaaagaa tggcgtgttaa actgatccca giagatcaat tlaagccatc tgalgtggaa 540  
 atccaggctt gcttccggca cgagaacatc gcagagctgt atggcgcagt cctgtgggggt 600  
 gaaactgtcc atctctllat ggaagcaggc gagggagggt ctgttctgga gaaactggag 660  
 agctgtggac caatgagaga atttgaaatt atttgggtga caaagcatgt tctcaaggga 720  
 ctltgatitc tacactcaaa gaaagtgatc catcatgata ttaaacctag caacattgtt 780  
 ttcatgtcca caaaagctgt ttgtgtggat ttgtggcctaa gtgttcaaat gaccgaagat 840  
 gtctatitct ctaaggacct ccgaggaaca gagatitaca tgagcccaga ggtcatcctg 900



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tgcagggggcc attcaaccaa agcagacatc tacagccctgg gggccacgct catccacatg 960
cagacggggca cccacccctg ggtagaagcgc taccctcgct cagcctatcc ctccctaccig 1020
tacataatcc acaagcaagc accctccacig gaagacatig cagalactg cagtcacagg 1080
atgagagagc tgalagaagc tccccctggag agaaacccca atcacccgcc aagagccgca 1140
gacctactaa aacatgaggc cctgaacccg cccagagagg atcagccacg ctgtcagagt 1200
ctggactctg cctctcttga gcgcaagagg ctgctgagta ggaaggagct ggaacttcct 1260
gagaacatig ctgattcttc gtgcacagga agcaccgagg aatctgagal gctcaagagg 1320
caacgccttc tctacatcga cctcggcgct ctggctggct acitcaatct tgttcgggga 1380
ccaccaacgc ttgaataatg c 1401

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<210> 44

<211> 467

<212> PRT

<213> Homo sapience

<400> 44

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Met Glu Tyr Met Ser Thr Gly Ser Asp Asn Lys Glu Glu Ile Asp Leu
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Leu Ile Lys His Leu Asn Val Ser Asp Val Ile Asp Ile Met Glu Asn
      20              25              30
Leu Tyr Ala Ser Glu Glu Pro Ala Val Tyr Glu Pro Ser Leu Met Thr
      35              40              45
Met Cys Gln Asp Ser Asn Gln Asn Asp Glu Arg Ser Lys Ser Leu Leu
      50              55              60
Leu Ser Gly Gln Glu Val Pro Trp Leu Ser Ser Val Arg Tyr Gly Thr
      65              70              75              80
Val Glu Asp Leu Leu Ala Phe Ala Asn His Ile Ser Asn Thr Ala Lys
      85              90              95
His Phe Tyr Gly Gln Arg Pro Gln Glu Ser Gly Ile Leu Leu Asn Met
      100             105             110
Val Ile Thr Pro Gln Asn Gly Arg Tyr Gln Ile Asp Ser Asp Val Leu
      115             120             125
Leu Ile Pro Trp Lys Leu Thr Tyr Arg Asn Ile Gly Ser Asp Phe Ile
      130             135             140
Pro Arg Gly Ala Phe Gly Lys Val Tyr Leu Ala Gln Asp Ile Lys Thr
      145             150             155             160
Lys Lys Arg Met Ala Cys Lys Leu Ile Pro Val Asp Gln Phe Lys Pro
      165             170             175
Ser Asp Val Glu Ile Gln Ala Cys Phe Arg His Glu Asn Ile Ala Glu
      180             185             190
Leu Tyr Gly Ala Val Leu Trp Gly Glu Thr Val His Leu Phe Met Glu
      195             200             205
Ala Gly Glu Gly Gly Ser Val Leu Glu Lys Leu Glu Ser Cys Gly Pro
      210             215             220
Met Arg Glu Phe Glu Ile Ile Trp Val Thr Lys His Val Leu Lys Gly
      225             230             235             240
Leu Asp Phe Leu His Ser Lys Lys Val Ile His His Asp Ile Lys Pro

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				245					250					255			
Ser	Asn	Ile	Val	Phe	Met	Ser	Thr	Lys	Ala	Val	Leu	Val	Asp	Phe	Gly		
			260						265					270			
Leu	Ser	Val	Gln	Met	Thr	Glu	Asp	Val	Tyr	Phe	Pro	Lys	Asp	Leu	Arg		
		275						280					285				
Gly	Thr	Glu	Ile	Tyr	Met	Ser	Pro	Glu	Val	Ile	Leu	Cys	Arg	Gly	His		
	290					295					300						
Ser	Thr	Lys	Ala	Asp	Ile	Tyr	Ser	Leu	Gly	Ala	Thr	Leu	Ile	His	Met		
305					310					315					320		
Gln	Thr	Gly	Thr	Pro	Pro	Trp	Val	Lys	Arg	Tyr	Pro	Arg	Ser	Ala	Tyr		
			325						330					335			
Pro	Ser	Tyr	Leu	Tyr	Ile	Ile	His	Lys	Gln	Ala	Pro	Pro	Leu	Glu	Asp		
		340						345					350				
Ile	Ala	Asp	Asp	Cys	Ser	Pro	Gly	Met	Arg	Glu	Leu	Ile	Glu	Ala	Ser		
	355						360					365					
Leu	Glu	Arg	Asn	Pro	Asn	His	Arg	Pro	Arg	Ala	Ala	Asp	Leu	Leu	Lys		
	370					375				380							
His	Glu	Ala	Leu	Asn	Pro	Pro	Arg	Glu	Asp	Gln	Pro	Arg	Cys	Gln	Ser		
385					390					395					400		
Leu	Asp	Ser	Ala	Leu	Leu	Glu	Arg	Lys	Arg	Leu	Leu	Ser	Arg	Lys	Glu		
			405					410					415				
Leu	Glu	Leu	Pro	Glu	Asn	Ile	Ala	Asp	Ser	Ser	Cys	Thr	Gly	Ser	Thr		
		420						425					430				
Glu	Glu	Ser	Glu	Met	Leu	Lys	Arg	Gln	Arg	Ser	Leu	Tyr	Ile	Asp	Leu		
	435						440					445					
Gly	Ala	Leu	Ala	Gly	Tyr	Phe	Asn	Leu	Val	Arg	Gly	Pro	Pro	Thr	Leu		
	450					455					460						
Glu	Tyr	Gly															
465																	

<210> 45

<211> 1629

<212> DNA

<213> Homo sapience

<400> 45

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taccccgagc	aaaccactcg	actgcccccc	atcacctata	ctggccgctt	tccccggag	420
ccgtcaccca	acagtgga	caccttgigg	cccagacccc	ctctcagctt	ggctcagtggc	480
ctagtigagca	tgaccaaccc	accggcctcc	tcgtctctcag	caccatctcc	agcggcctcc	540
tccgcctccg	cttcccagag	cccacccctg	agctgcgcag	tgccatccaa	cgacagcagt	600
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&lt;210&gt; 47

<211> 1161  
 <212> DNA  
 <213> Homo sapience

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 tatcccgccg taccccccta ctccaactgc ggcgacctct actcagagcc cgtgtcttct 480  
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 <211> 387  
 <212> PRT  
 <213> Homo sapience

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 Leu Asn Leu Phe Ser Gly Ser Ser Asp Ser Val Val His Tyr Asn Gln  
 35 40 45  
 Met Ala Thr Glu Asn Val Met Asp Ile Gly Leu Thr Asn Glu Lys Pro  
 50 55 60  
 Asn Pro Glu Leu Ser Tyr Ser Gly Ser Phe Gln Pro Ala Pro Gly Asn  
 65 70 75 80  
 Lys Thr Val Thr Tyr Leu Gly Lys Phe Ala Phe Asp Ser Pro Ser Asn  
 85 90 95  
 Trp Cys Gln Asp Asn Ile Ile Ser Leu Met Ser Ala Gly Ile Leu Gly  
 100 105 110  
 Val Pro Pro Ala Ser Gly Ala Leu Ser Thr Gln Thr Ser Thr Ala Ser

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130	135	140
Pro Pro Tyr Ser Asn Cys Gly Asp Leu Tyr Ser Glu Pro Val Ser Phe		
145	150	155
His Asp Pro Gln Gly Asn Pro Gly Leu Ala Tyr Ser Pro Gln Asp Tyr		
165	170	175
Gln Ser Ala Lys Pro Ala Leu Asp Ser Asn Leu Phe Pro Met Ile Pro		
180	185	190
Asp Tyr Asn Leu Tyr His His Pro Asn Asp Met Gly Ser Ile Pro Glu		
195	200	205
His Lys Pro Phe Gln Gly Met Asp Pro Ile Arg Val Asn Pro Pro Pro		
210	215	220
Ile Thr Pro Leu Glu Thr Ile Lys Ala Phe Lys Asp Lys Gln Ile His		
225	230	235
Pro Gly Phe Gly Ser Leu Pro Gln Pro Pro Leu Thr Leu Lys Pro Ile		
245	250	255
Arg Pro Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Leu His Glu		
260	265	270
Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Arg		
275	280	285
Ser Asp Glu Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys Pro		
290	295	300
Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg Ser Asp His Leu		
305	310	315
Thr Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu		
325	330	335
Phe Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His Ala		
340	345	350
Lys Ile His Leu Lys Gln Lys Glu Lys Lys Ala Glu Lys Gly Gly Ala		
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Pro Ser Ala Ser Ser Ala Pro Pro Val Ser Leu Ala Pro Val Val Thr		
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Thr Cys Ala		
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<210> 49

<211> 2850

<212> DNA

<213> Homo sapience

<400> 49

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cccggcttca cgtccagaa cgtggggcgc aaatccgggt ccgagacgcc gcttccggaa	300

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<210> 50

<211> 950

<212> PRT

<400> 50

40/63



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		370				375					380						
Glu	Leu	Gly	His	Val	Phe	Asn	Met	Pro	His	Asp	Asp	Ala	Lys	Gln	Cys		
385					390					395					400		
Ala	Ser	Leu	Asn	Gly	Val	Asn	Gln	Asp	Ser	His	Met	Met	Ala	Ser	Met		
				405					410					415			
Leu	Ser	Asn	Leu	Asp	His	Ser	Gln	Pro	Trp	Ser	Pro	Cys	Ser	Ala	Tyr		
			420					425						430			
Met	Ile	Thr	Ser	Phe	Leu	Asp	Asn	Gly	His	Gly	Glu	Cys	Leu	Met	Asp		
		435						440				445					
Lys	Pro	Gln	Asn	Pro	Ile	Gln	Leu	Pro	Gly	Asp	Leu	Pro	Gly	Thr	Ser		
		450				455					460						
Tyr	Asp	Ala	Asn	Arg	Gln	Cys	Gln	Phe	Thr	Phe	Gly	Glu	Asp	Ser	Lys		
465					470					475					480		
His	Cys	Pro	Asp	Ala	Ala	Ser	Thr	Cys	Ser	Thr	Leu	Trp	Cys	Thr	Gly		
				485					490						495		
Thr	Ser	Gly	Gly	Val	Leu	Val	Cys	Gln	Thr	Lys	His	Phe	Pro	Trp	Ala		
			500					505						510			
Asp	Gly	Thr	Ser	Cys	Gly	Glu	Gly	Lys	Trp	Cys	Ile	Asn	Gly	Lys	Cys		
		515					520					525					
Val	Asn	Lys	Thr	Asp	Arg	Lys	His	Phe	Asp	Thr	Pro	Phe	His	Gly	Ser		
	530					535					540						
Trp	Gly	Met	Trp	Gly	Pro	Trp	Gly	Asp	Cys	Ser	Arg	Thr	Cys	Gly	Gly		
545					550					555					560		
Gly	Val	Gln	Tyr	Thr	Met	Arg	Glu	Cys	Asp	Asn	Pro	Val	Pro	Lys	Asn		
				565					570					575			
Gly	Gly	Lys	Tyr	Cys	Glu	Gly	Lys	Arg	Val	Arg	Tyr	Arg	Ser	Cys	Asn		
			580					585					590				
Leu	Glu	Asp	Cys	Pro	Asp	Asn	Asn	Gly	Lys	Thr	Phe	Arg	Glu	Glu	Gln		
		595					600					605					
Cys	Glu	Ala	His	Asn	Glu	Phe	Ser	Lys	Ala	Ser	Phe	Gly	Ser	Gly	Pro		
		610				615					620						
Ala	Val	Glu	Trp	Ile	Pro	Lys	Tyr	Ala	Gly	Val	Ser	Pro	Lys	Asp	Arg		
625					630					635					640		
Cys	Lys	Leu	Ile	Cys	Gln	Ala	Lys	Gly	Ile	Gly	Tyr	Phe	Phe	Val	Leu		
				645					650					655			
Gln	Pro	Lys	Val	Val	Asp	Gly	Thr	Pro	Cys	Ser	Pro	Asp	Ser	Thr	Ser		
			660					665						670			
Val	Cys	Val	Gln	Gly	Gln	Cys	Val	Lys	Ala	Gly	Cys	Asp	Arg	Ile	Ile		
		675					680					685					
Asp	Ser	Lys	Lys	Lys	Phe	Asp	Lys	Cys	Gly	Val	Cys	Gly	Gly	Asn	Gly		
	690					695					700						
Ser	Thr	Cys	Lys	Lys	Ile	Ser	Gly	Ser	Val	Thr	Ser	Ala	Lys	Pro	Gly		
705					710					715					720		
Tyr	His	Asp	Ile	Ile	Thr	Ile	Pro	Thr	Gly	Ala	Thr	Asn	Ile	Glu	Val		

				725					730					735			
Lys	Gln	Arg	Asn	Gln	Arg	Gly	Ser	Arg	Asn	Asn	Gly	Ser	Phe	Leu	Ala		
			740					745					750				
Ile	Lys	Ala	Ala	Asp	Gly	Thr	Tyr	Ile	Leu	Asn	Gly	Asp	Tyr	Thr	Leu		
		755					760				765						
Ser	Thr	Leu	Glu	Gln	Asp	Ile	Met	Tyr	Lys	Gly	Val	Val	Leu	Arg	Tyr		
	770				775					780							
Ser	Gly	Ser	Ser	Ala	Ala	Leu	Glu	Arg	Ile	Arg	Ser	Phe	Ser	Pro	Leu		
785				790				795						800			
Lys	Glu	Pro	Leu	Thr	Ile	Gln	Val	Leu	Thr	Val	Gly	Asn	Ala	Leu	Arg		
			805				810						815				
Pro	Lys	Ile	Lys	Tyr	Thr	Tyr	Phe	Val	Lys	Lys	Lys	Lys	Glu	Ser	Phe		
		820				825						830					
Asn	Ala	Ile	Pro	Thr	Phe	Ser	Ala	Trp	Val	Ile	Glu	Glu	Trp	Gly	Glu		
	835				840					845							
Cys	Ser	Lys	Ser	Cys	Glu	Leu	Gly	Trp	Gln	Arg	Arg	Leu	Val	Glu	Cys		
	850			855		860											
Arg	Asp	Ile	Asn	Gly	Gln	Pro	Ala	Ser	Glu	Cys	Ala	Lys	Glu	Val	Lys		
865				870		875							880				
Pro	Ala	Ser	Thr	Arg	Pro	Cys	Ala	Asp	His	Pro	Cys	Pro	Gln	Trp	Gln		
			885			890							895				
Leu	Gly	Glu	Trp	Ser	Ser	Cys	Ser	Lys	Thr	Cys	Gly	Lys	Gly	Tyr	Lys		
	900				905							910					
Lys	Arg	Ser	Leu	Lys	Cys	Leu	Ser	His	Asp	Gly	Gly	Val	Leu	Ser	His		
	915				920							925					
Glu	Ser	Cys	Asp	Pro	Leu	Lys	Lys	Pro	Lys	His	Phe	Ile	Asp	Phe	Cys		
	930				935						940						
Thr	Met	Ala	Glu	Cys	Ser												
945				950													

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 <212> DNA  
 <213> Homo sapience

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 tgccgccagt tctgtacgg gggctgcgag ggcaacgcca acaatttcta cactgggag 240  
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 agaaccgtgt atgctttcac ctatactggc tgtggaggga atgacaataa ctttgttagc 600  
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705

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 <211> 235  
 <212> PRT  
 <213> Homo sapience

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                   20                  25                  30  
 Ala Glu Ile Cys Leu Leu Pro Leu Asp Tyr Gly Pro Cys Arg Ala Leu  
                   35                  40                  45  
 Leu Leu Arg Tyr Tyr Tyr Asp Arg Tyr Thr Gln Ser Cys Arg Gln Phe  
                   50                  55                  60  
 Leu Tyr Gly Gly Cys Glu Gly Asn Ala Asn Asn Phe Tyr Thr Trp Glu  
                   65                  70                  75                  80  
 Ala Cys Asp Asp Ala Cys Trp Arg Ile Glu Lys Val Pro Lys Val Cys  
                   85                  90                  95  
 Arg Leu Gln Val Ser Val Asp Asp Gln Cys Glu Gly Ser Thr Glu Lys  
                   100                  105                  110  
 Tyr Phe Phe Asn Leu Ser Ser Met Thr Cys Glu Lys Phe Phe Ser Gly  
                   115                  120                  125  
 Gly Cys His Arg Asn Arg Ile Glu Asn Arg Phe Pro Asp Glu Ala Thr  
                   130                  135                  140  
 Cys Met Gly Phe Cys Ala Pro Lys Lys Ile Pro Ser Phe Cys Tyr Ser  
                   145                  150                  155                  160  
 Pro Lys Asp Glu Gly Leu Cys Ser Ala Asn Val Thr Arg Tyr Tyr Phe  
                   165                  170                  175  
 Asn Pro Arg Tyr Arg Thr Cys Asp Ala Phe Thr Tyr Thr Gly Cys Gly  
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 Gly Asn Asp Asn Asn Phe Val Ser Arg Glu Asp Cys Lys Arg Ala Cys  
                   195                  200                  205  
 Ala Lys Ala Leu Lys Lys Lys Lys Lys Met Pro Lys Leu Arg Phe Ala  
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 Ser Arg Ile Arg Lys Ile Arg Lys Lys Gln Phe  
                   225                  230                  235

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 <212> DNA  
 <213> Homo sapience

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<210> 54

<211> 252

<212> PRT

<213> Homo sapience

<400> 54

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			20					25					30			
Lys	Glu	Tyr	Arg	Val	Leu	Leu	Gly	Gln	Leu	Gln	Lys	Gln	Thr	Asp	Leu	
			35				40						45			
Met	Gln	Asp	Thr	Ser	Arg	Leu	Leu	Asp	Pro	Tyr	Ile	Arg	Ile	Gln	Gly	
			50				55					60				
Leu	Asp	Val	Pro	Lys	Leu	Arg	Glu	His	Cys	Arg	Glu	Arg	Pro	Gly	Ala	
						70				75					80	
Phe	Pro	Ser	Glu	Glu	Thr	Leu	Arg	Gly	Leu	Gly	Arg	Arg	Gly	Phe	Leu	
						85				90					95	
Gln	Thr	Leu	Asn	Ala	Thr	Leu	Gly	Cys	Val	Leu	His	Arg	Leu	Ala	Asp	
			100					105						110		
Leu	Glu	Gln	Arg	Leu	Pro	Lys	Ala	Gln	Asp	Leu	Glu	Arg	Ser	Gly	Leu	
			115				120						125			
Asn	Ile	Glu	Asp	Leu	Glu	Lys	Leu	Gln	Met	Ala	Arg	Pro	Asn	Ile	Leu	
			130				135				140					
Gly	Leu	Arg	Asn	Asn	Ile	Tyr	Cys	Met	Ala	Gln	Leu	Leu	Asp	Asn	Ser	
						150				155					160	
Asp	Thr	Ala	Glu	Pro	Thr	Lys	Ala	Gly	Arg	Gly	Ala	Ser	Gln	Pro	Pro	
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 Val Glu Val Leu Thr Glu Glu Val Pro Asp Met Gly Asn Leu Thr Val  
 1250 1255 1260  
 Thr Glu Val Ser Trp Asp Ala Leu Arg Leu Asn Trp Thr Thr Pro Asp  
 1265 1270 1275 1280  
 Gly Thr Tyr Asp Gln Phe Thr Ile Gln Val Gln Glu Ala Asp Gln Val  
 1285 1290 1295  
 Glu Glu Ala His Asn Leu Thr Val Pro Gly Ser Leu Arg Ser Met Glu  
 1300 1305 1310  
 Ile Pro Gly Leu Arg Ala Gly Thr Pro Tyr Thr Val Thr Leu His Gly  
 1315 1320 1325  
 Glu Val Arg Gly His Ser Thr Arg Pro Leu Ala Val Glu Val Val Thr  
 1330 1335 1340  
 Glu Asp Leu Pro Gln Leu Gly Asp Leu Ala Val Ser Glu Val Gly Trp  
 1345 1350 1355 1360  
 Asp Gly Leu Arg Leu Asn Trp Thr Ala Ala Asp Asn Ala Tyr Glu His  
 1365 1370 1375  
 Phe Val Ile Gln Val Gln Glu Val Asn Lys Val Glu Ala Ala Gln Asn  
 1380 1385 1390  
 Leu Thr Leu Pro Gly Ser Leu Arg Ala Val Asp Ile Pro Gly Leu Glu  
 1395 1400 1405  
 Ala Ala Thr Pro Tyr Arg Val Ser Ile Tyr Gly Val Ile Arg Gly Tyr  
 1410 1415 1420  
 Arg Thr Pro Val Leu Ser Ala Glu Ala Ser Thr Ala Lys Glu Pro Glu  
 1425 1430 1435 1440  
 Ile Gly Asn Leu Asn Val Ser Asp Ile Thr Pro Glu Ser Phe Asn Leu  
 1445 1450 1455  
 Ser Trp Met Ala Thr Asp Gly Ile Phe Glu Thr Phe Thr Ile Glu Ile  
 1460 1465 1470  
 Ile Asp Ser Asn Arg Leu Leu Glu Thr Val Glu Tyr Asn Ile Ser Gly  
 1475 1480 1485  
 Ala Glu Arg Thr Ala His Ile Ser Gly Leu Pro Pro Ser Thr Asp Phe  
 1490 1495 1500  
 Ile Val Tyr Leu Ser Gly Leu Ala Pro Ser Ile Arg Thr Lys Thr Ile  
 1505 1510 1515 1520  
 Ser Ala Thr Ala Thr Thr Glu Ala Leu Pro Leu Leu Glu Asn Leu Thr  
 1525 1530 1535  
 Ile Ser Asp Ile Asn Pro Tyr Gly Phe Thr Val Ser Trp Met Ala Ser  
 1540 1545 1550  
 Glu Asn Ala Phe Asp Ser Phe Leu Val Thr Val Val Asp Ser Gly Lys  
 1555 1560 1565  
 Leu Leu Asp Pro Gln Glu Phe Thr Leu Ser Gly Thr Gln Arg Lys Leu  
 1570 1575 1580  
 Glu Leu Arg Gly Leu Ile Thr Gly Ile Gly Tyr Glu Val Met Val Ser  
 1585 1590 1595 1600  
 Gly Phe Thr Gln Gly His Gln Thr Lys Pro Leu Arg Ala Glu Ile Val

	1605	1610	1615
Thr Glu Ala Glu Pro Glu Val Asp Asn Leu Leu Val Ser Asp Ala Thr			
1620	1625	1630	
Pro Asp Gly Phe Arg Leu Ser Trp Thr Ala Asp Glu Gly Val Phe Asp			
1635	1640	1645	
Asn Phe Val Leu Lys Ile Arg Asp Thr Lys Lys Gln Ser Glu Pro Leu			
1650	1655	1660	
Glu Ile Thr Leu Leu Ala Pro Glu Arg Thr Arg Asp Leu Thr Gly Leu			
1665	1670	1675	1680
Arg Glu Ala Thr Glu Tyr Glu Ile Glu Leu Tyr Gly Ile Ser Lys Gly			
1685	1690	1695	
Arg Arg Ser Gln Thr Val Ser Ala Ile Ala Thr Thr Ala Met Gly Ser			
1700	1705	1710	
Pro Lys Glu Val Ile Phe Ser Asp Ile Thr Glu Asn Ser Ala Thr Val			
1715	1720	1725	
Ser Trp Arg Ala Pro Thr Ala Gln Val Glu Ser Phe Arg Ile Thr Tyr			
1730	1735	1740	
Val Pro Ile Thr Gly Gly Thr Pro Ser Met Val Thr Val Asp Gly Thr			
1745	1750	1755	1760
Lys Thr Gln Thr Arg Leu Val Lys Leu Ile Pro Gly Val Glu Tyr Leu			
1765	1770	1775	
Val Ser Ile Ile Ala Met Lys Gly Phe Glu Glu Ser Glu Pro Val Ser			
1780	1785	1790	
Gly Ser Phe Thr Thr Ala Leu Asp Gly Pro Ser Gly Leu Val Thr Ala			
1795	1800	1805	
Asn Ile Thr Asp Ser Glu Ala Leu Ala Arg Trp Gln Pro Ala Ile Ala			
1810	1815	1820	
Thr Val Asp Ser Tyr Val Ile Ser Tyr Thr Gly Glu Lys Val Pro Glu			
1825	1830	1835	1840
Ile Thr Arg Thr Val Ser Gly Asn Thr Val Glu Tyr Ala Leu Thr Asp			
1845	1850	1855	
Leu Glu Pro Ala Thr Glu Tyr Thr Leu Arg Ile Phe Ala Glu Lys Gly			
1860	1865	1870	
Pro Gln Lys Ser Ser Thr Ile Thr Ala Lys Phe Thr Thr Asp Leu Asp			
1875	1880	1885	
Ser Pro Arg Asp Leu Thr Ala Thr Glu Val Gln Ser Glu Thr Ala Leu			
1890	1895	1900	
Leu Thr Trp Arg Pro Pro Arg Ala Ser Val Thr Gly Tyr Leu Leu Val			
1905	1910	1915	1920
Tyr Glu Ser Val Asp Gly Thr Val Lys Glu Val Ile Val Gly Pro Asp			
1925	1930	1935	
Thr Thr Ser Tyr Ser Leu Ala Asp Leu Ser Pro Ser Thr His Tyr Thr			
1940	1945	1950	
Ala Lys Ile Gln Ala Leu Asn Gly Pro Leu Arg Ser Asn Met Ile Gln			
1955	1960	1965	
Thr Ile Phe Thr Thr Ile Gly Leu Leu Tyr Pro Phe Pro Lys Asp Cys			
1970	1975	1980	

Ser Gln Ala Met Leu Asn Gly Asp Thr Thr Ser Gly Leu Tyr Thr Ile	
1985	1990 1995 2000
Tyr Leu Asn Gly Asp Lys Ala Gln Ala Leu Glu Val Phe Cys Asp Met	
	2005 2010 2015
Thr Ser Asp Gly Gly Gly Trp Ile Val Phe Leu Arg Arg Lys Asn Gly	
	2020 2025 2030
Arg Glu Asn Phe Tyr Gln Asn Trp Lys Ala Tyr Ala Ala Gly Phe Gly	
	2035 2040 2045
Asp Arg Arg Glu Glu Phe Trp Leu Gly Leu Asp Asn Leu Asn Lys Ile	
	2050 2055 2060
Thr Ala Gln Gly Gln Tyr Glu Leu Arg Val Asp Leu Arg Asp His Gly	
2065	2070 2075 2080
Glu Thr Ala Phe Ala Val Tyr Asp Lys Phe Ser Val Gly Asp Ala Lys	
	2085 2090 2095
Thr Arg Tyr Lys Leu Lys Val Glu Gly Tyr Ser Gly Thr Ala Gly Asp	
	2100 2105 2110
Ser Met Ala Tyr His Asn Gly Arg Ser Phe Ser Thr Phe Asp Lys Asp	
	2115 2120 2125
Thr Asp Ser Ala Ile Thr Asn Cys Ala Leu Ser Tyr Lys Gly Ala Phe	
	2130 2135 2140
Trp Tyr Arg Asn Cys His Arg Val Asn Leu Met Gly Arg Tyr Gly Asp	
2145	2150 2155 2160
Asn Asn His Ser Gln Gly Val Asn Trp Phe His Trp Lys Gly His Glu	
	2165 2170 2175
His Ser Ile Gln Phe Ala Glu Met Lys Leu Arg Pro Ser Asn Phe Arg	
	2180 2185 2190
Asn Leu Glu Gly Arg Arg Lys Arg Ala	
	2195 2200

<210> 57  
 <211> 1134  
 <212> DNA  
 <213> Homo sapience

<400> 57  
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 ctaccaccg tgcctctctt ggtcatctgc agcttcacgc tcttggagaa cctgatggtt 180  
 ttgattgcca tctggaaaaa caataaattt cacaaccgca tgtactttt cattggcaac 240  
 ctggctctct gcgacctgct ggccggcatt gcctacaagg tcaacattct gatgtctggc 300  
 aagaagacgt tcagccctgc tcccacggtc tggctcctca gggagggcag tatgttcgtg 360  
 gcccttgggg cgctccacct cagcttactg gccatcgcca tcgagcggca ctgacaatg 420  
 atcaaaatga ggcttacga cgccaacaag aggcaccgcg tcttccctct gatcgggatg 480  
 tgcctggctca ttgccttcac gctgggcgcc ctgccattc tgggctggaa ctgcctgcac 540  
 aatctccctg actgctctac catcctgccc ctctactcca agaagtacat tgccttctgc 600  
 atcagcatct tcacggccat cctggtgacc atcgtgatcc tctacgcacg catctacttc 660  
 ctgggtgaagt ccagcagccg taagggtggc aaccacaaca actcggagcg gtccatggca 720

c t g c t g c g g a	c c g t g g t g a t	t g t g g t g a g c	g t g t t c a t c g	c c t g c t g g t c	c c c a c t c t t c	780
a t c c t c t t c c	t c a t t g a t g t	g g c c t g c a g g	g t g c a g g c g t	g c c c c a t c c t	c t t c a a g g c t	840
c a g t g g t t c a	t c g t g t g g c	t g t g c t c a a c	t c c g c c a t g a	a c c c g g t c a t	c t a c a c g c t g	900
g c c a g c a a g g	a g a t g c g g c g	g g c c t t c t t c	c g t c t g g t c t	g c a a c t g c c t	g g t c a g g g g a	960
c g g g g g g c c c	g c g c t c a c c	c a t c c a g c c t	g c g c t c g a c c	c a a g c a g a a g	t a a a t c a a g c	1020
a g c a g c a a c a	a t a g c a g c c a	c t c t c c g a a g	g t c a a g g a a g	a c c t g c c c c a	c a c a g c c c c c	1080
t c a t c c t g c a	t c a t g g a c a a	g a a c g c a g c a	c t t c a g a a t g	g g a t c t t c t g	c a a c	1134

<210> 58

<211> 378

<212> PRT

<213> Homo sapience

<400> 58

Met	Ala	Thr	Ala	Leu	Pro	Pro	Arg	Leu	Gln	Pro	Val	Arg	Gly	Asn	Glu	
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Thr	Leu	Arg	Glu	His	Tyr	Gln	Tyr	Val	Gly	Lys	Leu	Ala	Gly	Arg	Leu	
			20					25					30			
Lys	Glu	Ala	Ser	Glu	Gly	Ser	Thr	Leu	Thr	Thr	Val	Leu	Phe	Leu	Val	
		35					40					45				
Ile	Cys	Ser	Phe	Ile	Val	Leu	Glu	Asn	Leu	Met	Val	Leu	Ile	Ala	Ile	
	50					55				60						
Trp	Lys	Asn	Asn	Lys	Phe	His	Asn	Arg	Met	Tyr	Phe	Phe	Ile	Gly	Asn	
	65				70				75						80	
Leu	Ala	Leu	Cys	Asp	Leu	Leu	Ala	Gly	Ile	Ala	Tyr	Lys	Val	Asn	Ile	
				85				90						95		
Leu	Met	Ser	Gly	Lys	Lys	Thr	Phe	Ser	Leu	Ser	Pro	Thr	Val	Trp	Phe	
		100					105					110				
Leu	Arg	Glu	Gly	Ser	Met	Phe	Val	Ala	Leu	Gly	Ala	Ser	Thr	Cys	Ser	
		115					120					125				
Leu	Leu	Ala	Ile	Ala	Ile	Glu	Arg	His	Leu	Thr	Met	Ile	Lys	Met	Arg	
	130					135					140					
Pro	Tyr	Asp	Ala	Asn	Lys	Arg	His	Arg	Val	Phe	Leu	Leu	Ile	Gly	Met	
	145				150					155					160	
Cys	Trp	Leu	Ile	Ala	Phe	Thr	Leu	Gly	Ala	Leu	Pro	Ile	Leu	Gly	Trp	
			165					170						175		
Asn	Cys	Leu	His	Asn	Leu	Pro	Asp	Cys	Ser	Thr	Ile	Leu	Pro	Leu	Tyr	
			180					185					190			
Ser	Lys	Lys	Tyr	Ile	Ala	Phe	Cys	Ile	Ser	Ile	Phe	Thr	Ala	Ile	Leu	
		195					200					205				
Val	Thr	Ile	Val	Ile	Leu	Tyr	Ala	Arg	Ile	Tyr	Phe	Leu	Val	Lys	Ser	
	210					215					220					
Ser	Ser	Arg	Lys	Val	Ala	Asn	His	Asn	Asn	Ser	Glu	Arg	Ser	Met	Ala	
	225				230					235					240	
Leu	Leu	Arg	Thr	Val	Val	Ile	Val	Val	Ser	Val	Phe	Ile	Ala	Cys	Trp	
				245					250					255		
Ser	Pro	Leu	Phe	Ile	Leu	Phe	Leu	Ile	Asp	Val	Ala	Cys	Arg	Val	Gln	

	260		265		270
Ala Cys Pro Ile Leu Phe Lys	Ala Gln Trp Phe Ile Val Leu Ala Val				
275	280	285			
Leu Asn Ser Ala Met Asn Pro Val Ile Tyr Thr Leu Ala Ser Lys Glu					
290	295	300			
Met Arg Arg Ala Phe Phe Arg Leu Val Cys Asn Cys Leu Val Arg Gly					
305	310	315			320
Arg Gly Ala Arg Ala Ser Pro Ile Gln Pro Ala Leu Asp Pro Ser Arg					
	325	330			335
Ser Lys Ser Ser Ser Ser Asn Asn Ser Ser His Ser Pro Lys Val Lys					
	340	345			350
Glu Asp Leu Pro His Thr Ala Pro Ser Ser Cys Ile Met Asp Lys Asn					
	355	360			365
Ala Ala Leu Gln Asn Gly Ile Phe Cys Asn					
370	375				

<210> 59  
 <211> 1152  
 <212> DNA  
 <213> Homo sapience

<400> 59

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gaggacatga	ccaagacccg	gaccttcttc	gcagccaaga	tcgtcattgg	catlgcactg	180
gcaggcatca	tgctggctcg	cggcatcggt	aactttgtct	ttatcgctgc	cctcaccgcg	240
tataagaagi	tgcgcaacct	caccaatctg	ctcattgcca	acctggccat	ctccgacttc	300
ctggtaggcca	tcactcgtcg	ccccctcgag	atggactact	acgtggtagc	gcagctctcc	360
tgggagcatg	gccacgtgct	ctgtgctctc	gtcaactacc	tgcgcaccgi	ctccctctac	420
gtctccacca	atgccctgct	ggccattgcc	attgacagat	atctcgccat	cgttcacccc	480
ttgaaaccac	ggatgaatta	lcaaacggcc	tccttctctga	tcgacctggt	ctggatgggtg	540
tccattctca	ttgccatccc	atcggtttac	tttgcaacag	aaacggctct	ctttattgtc	600
aagagccagg	agaagatctt	ctgtggccag	atctggccctg	tggalcagca	gcctctactac	660
aagtcctact	tcctcttcat	cttgggtgtc	gagttcgigg	gccccgtggg	caccatgacc	720
ctgtgctatg	ccaggatctc	ccgggagctc	tggttcaagg	cagtcctcgg	gttccagacg	780
gagcagattc	gcaagcggct	gcgctgcgcg	aggaagacgg	tccgggtgct	catgtgcatt	840
ctcaccggct	atgtgctgtg	ctgggcaccc	ttctacgggt	tcaccatcgt	tcgtgacttc	900
ttccccacig	tgctcgtgaa	ggaaaagcac	taccctcactg	ccttctacgt	ggtcgagatgc	960
atcgccatga	gcaacagcat	galcaacacc	gtgtgcttctg	tgacgggtcaa	gaacaacacc	1020
atgaagtact	tcaagaagat	gatgctgctg	cactggcgctc	ccctccagcg	ggggagcaag	1080
tccagtgctg	accttgacct	cagaaccaac	gggggtgccc	ccacagaaga	ggtagactgt	1140
atcaggctga	ag					1152

<210> 60  
 <211> 384  
 <212> PRT  
 <213> Homo sapience

Met	Ala	Ala	Gln	Asn	Gly	Asn	Thr	Ser	Phe	Thr	Pro	Asn	Phe	Asn	Pro
				5					10					15	
Pro	Gln	Asp	His	Ala	Ser	Ser	Leu	Ser	Phe	Asn	Phe	Ser	Tyr	Gly	Asp
			20					25					30		
Tyr	Asp	Leu	Pro	Met	Asp	Glu	Asp	Glu	Asp	Met	Thr	Lys	Thr	Arg	Thr
		35					40					45			
Phe	Phe	Ala	Ala	Lys	Ile	Val	Ile	Gly	Ile	Ala	Leu	Ala	Gly	Ile	Met
	50					55					60				
Leu	Val	Cys	Gly	Ile	Gly	Asn	Phe	Val	Phe	Ile	Ala	Ala	Leu	Thr	Arg
65					70					75					80
Tyr	Lys	Lys	Leu	Arg	Asn	Leu	Thr	Asn	Leu	Leu	Ile	Ala	Asn	Leu	Ala
				85					90					95	
Ile	Ser	Asp	Phe	Leu	Val	Ala	Ile	Ile	Cys	Cys	Pro	Phe	Glu	Met	Asp
			100					105					110		
Tyr	Tyr	Val	Val	Arg	Gln	Leu	Ser	Trp	Glu	His	Gly	His	Val	Leu	Cys
		115					120					125			
Ala	Ser	Val	Asn	Tyr	Leu	Arg	Thr	Val	Ser	Leu	Tyr	Val	Ser	Thr	Asn
	130					135					140				
Ala	Leu	Leu	Ala	Ile	Ala	Ile	Asp	Arg	Tyr	Leu	Ala	Ile	Val	His	Pro
145					150					155					160
Leu	Lys	Pro	Arg	Met	Asn	Tyr	Gln	Thr	Ala	Ser	Phe	Leu	Ile	Ala	Leu
				165					170					175	
Val	Trp	Met	Val	Ser	Ile	Leu	Ile	Ala	Ile	Pro	Ser	Ala	Tyr	Phe	Ala
			180					185					190		
Thr	Glu	Thr	Val	Leu	Phe	Ile	Val	Lys	Ser	Gln	Glu	Lys	Ile	Phe	Cys
		195					200					205			
Gly	Gln	Ile	Trp	Pro	Val	Asp	Gln	Gln	Leu	Tyr	Tyr	Lys	Ser	Tyr	Phe
	210					215					220				
Leu	Phe	Ile	Phe	Gly	Val	Glu	Phe	Val	Gly	Pro	Val	Val	Thr	Met	Thr
225					230					235					240
Leu	Cys	Tyr	Ala	Arg	Ile	Ser	Arg	Glu	Leu	Trp	Phe	Lys	Ala	Val	Pro
				245					250					255	
Gly	Phe	Gln	Thr	Glu	Gln	Ile	Arg	Lys	Arg	Leu	Arg	Cys	Arg	Arg	Lys
			260					265					270		
Thr	Val	Leu	Val	Leu	Met	Cys	Ile	Leu	Thr	Ala	Tyr	Val	Leu	Cys	Trp
		275					280					285			
Ala	Pro	Phe	Tyr	Gly	Phe	Thr	Ile	Val	Arg	Asp	Phe	Phe	Pro	Thr	Val
	290					295					300				
Phe	Val	Lys	Glu	Lys	His	Tyr	Leu	Thr	Ala	Phe	Tyr	Val	Val	Glu	Cys
305					310					315					320
Ile	Ala	Met	Ser	Asn	Ser	Met	Ile	Asn	Thr	Val	Cys	Phe	Val	Thr	Val
				325					330					335	
Lys	Asn	Asn	Thr	Met	Lys	Tyr	Phe	Lys	Lys	Met	Met	Leu	Leu	His	Trp
			340					345					350		
Arg	Pro	Ser	Gln	Arg	Gly	Ser</									



355	360	365
Thr Asn Gly Val Pro Thr Thr Glu Glu Val Asp Cys Ile Arg Leu Lys		
370	375	380

<210> 61  
 <211> 885  
 <212> DNA  
 <213> Homo sapience

<400> 61

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aagcccaacc	ctgccaacct	gcagctgtgc	cacggcactg	aataccagaa	catgcggctg	180
cccaacctgc	tgggccacga	gaccaatgaag	gaggctgcctg	agcaggccgg	cgcttggatc	240
ccgctgggtc	tgaagcagtg	ccacccggac	accaagaagt	tcctgtgctc	gctcttccgc	300
cccgtctgcc	tcgatgacct	agacgagacc	atccagccat	gccactcgct	ctgcgtgcag	360
gtgaaggacc	gcctgcggccc	ggctcgtgct	gccttccggt	tccttgggcc	cgacatgctt	420
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ctcctgccag	ccaccgagga	agctccaaag	gtatgtgaag	cttgcacaaa	taaaaatgat	540
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aaggagataa	cttacaatcaa	ccgagatacc	aaaatcatcc	tgagagacaa	gagcaagacc	660
atttacaagc	tgaacgggtg	gtccgaaagg	gacctgaaga	aatcggtgct	gtggctcaaa	720
gacagcttgc	agtcaccctg	tgaggagatg	aacgacatca	acgcgcctta	cttggctcatg	780
ggacagaaac	agggctggga	gctgggtgatc	acctcggtga	agcggtggca	gaaggggcag	840
agagagtcca	agcgcatctc	ccgcagcatc	cgcaagctgc	agtgc		885

<210> 62  
 <211> 295  
 <212> PRT  
 <213> Homo sapience

<400> 62

Met	Leu	Gln	Gly	Pro	Gly	Ser	Leu	Leu	Leu	Phe	Leu	Ala	Ser	His
			5				10					15		
Cys	Cys	Leu	Gly	Ser	Ala	Arg	Gly	Leu	Phe	Leu	Phe	Gly	Gln	Pro
		20					25					30		
Phe	Ser	Tyr	Lys	Arg	Ser	Asn	Cys	Lys	Pro	Ile	Pro	Ala	Asn	Leu
		35				40					45			
Leu	Cys	His	Gly	Ile	Glu	Tyr	Gln	Asn	Met	Arg	Leu	Pro	Asn	Leu
	50				55				60					
Gly	His	Glu	Thr	Met	Lys	Glu	Val	Leu	Glu	Gln	Ala	Gly	Ala	Trp
65				70				75					80	
Pro	Leu	Val	Met	Lys	Gln	Cys	His	Pro	Asp	Thr	Lys	Lys	Phe	Leu
			85			90					95			
Ser	Leu	Phe	Ala	Pro	Val	Cys	Leu	Asp	Asp	Leu	Asp	Glu	Thr	Ile
	100					105				110				
Pro	Cys	His	Ser	Leu	Cys	Val	Gln	Val	Lys	Asp	Arg	Cys	Ala	Pro

115	120	125
Met Ser Ala Phe Gly Phe	Pro Trp Pro Asp Met	Leu Glu Cys Asp Arg
130	135	140
Phe Pro Gln Asp Asn Asp	Leu Cys Ile Pro Leu	Ala Ser Ser Asp His
145	150	155
Leu Leu Pro Ala Thr Glu	Glu Ala Pro Lys Val	Cys Glu Ala Cys Lys
165	170	175
Asn Lys Asn Asp Asp Asp	Asn Asp Ile Met Glu	Thr Leu Cys Lys Asn
180	185	190
Asp Phe Ala Leu Lys Ile	Lys Val Lys Glu Ile	Thr Tyr Ile Asn Arg
195	200	205
Asp Thr Lys Ile Ile Leu	Glu Thr Lys Ser Lys	Thr Ile Tyr Lys Leu
210	215	220
Asn Gly Val Ser Glu Arg	Asp Leu Lys Lys Ser	Val Leu Trp Leu Lys
225	230	235
Asp Ser Leu Gln Cys Thr	Cys Glu Glu Met Asn	Asp Ile Asn Ala Pro
245	250	255
Tyr Leu Val Met Gly Gln	Lys Gln Gly Gly Glu	Leu Val Ile Thr Ser
260	265	270
Val Lys Arg Trp Gln Lys	Gly Gln Arg Glu Phe	Lys Arg Ile Ser Arg
275	280	285
Ser Ile Arg Lys Leu Gln	Cys	
290	295	

<210> 63  
 <211> 1011  
 <212> DNA  
 <213> Homo sapience

<400> 63

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agcateccica	ggaagcaagc	atttgaatcg	aagctgggtt	cccagacctt	gactaagact	180
tgcagcaaaa	gtcaggggaag	ctgggggaaat	agagagaltg	tcattattga	cacaccagat	240
atgttttcit	ggaaggacca	ctgtgaagct	ctgtacaaaag	aggtgcagag	gtgctacttg	300
ctgtctgcac	caggaccecca	tgigcigcic	ctggtagctc	agctgggccc	ctataacctca	360
caggaccagc	aggctgcaca	gagggtigaag	gagalclitg	gagaggatgc	catgggacac	420
acaatigtcc	tcittacecca	caaggaagac	ctcaatggtg	gctccctgat	ggattacatg	480
cacgactcag	ataacaaagc	cciaagcaag	ctggtaggcag	catgtgggtg	gcgaatctgt	540
gccittaaata	accgtgciga	agggagcaat	caggatgacc	aagtgaagga	actaatggac	600
tglatigagg	atctgttgat	ggagaaaaat	ggtgatcact	ataccaatgg	gttgtacagc	660
ctaatacaga	ggtctaaaatg	tggacctgtg	ggatcagatg	aaagagttaa	ggaattcaaa	720
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 <213> Homo sapience

<400> 64  
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 Thr Gly Lys Ser Ala Ala Gly Asn Ser Ile Leu Arg Lys Gln Ala Phe  
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 Glu Ser Lys Leu Gly Ser Gln Thr Leu Thr Lys Thr Cys Ser Lys Ser  
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 Gln Gly Ser Trp Gly Asn Arg Glu Ile Val Ile Ile Asp Thr Pro Asp  
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 Met Phe Ser Trp Lys Asp His Cys Glu Ala Leu Tyr Lys Glu Val Gln  
                   85                  90                  95  
 Arg Cys Tyr Leu Leu Ser Ala Pro Gly Pro His Val Leu Leu Leu Val  
                   100                  105                  110  
 Thr Gln Leu Gly Arg Tyr Thr Ser Gln Asp Gln Gln Ala Ala Gln Arg  
                   115                  120                  125  
 Val Lys Glu Ile Phe Gly Glu Asp Ala Met Gly His Thr Ile Val Leu  
                   130                  135                  140  
 Phe Thr His Lys Glu Asp Leu Asn Gly Gly Ser Leu Met Asp Tyr Met  
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 His Asp Ser Asp Asn Lys Ala Leu Ser Lys Leu Val Ala Ala Cys Gly  
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 Gly Arg Ile Cys Ala Phe Asn Asn Arg Ala Glu Gly Ser Asn Gln Asp  
                   180                  185                  190  
 Asp Gln Val Lys Glu Leu Met Asp Cys Ile Glu Asp Leu Leu Met Glu  
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 Lys Asn Gly Asp His Tyr Thr Asn Gly Leu Tyr Ser Leu Ile Gln Arg  
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 Ser Lys Cys Gly Pro Val Gly Ser Asp Glu Arg Val Lys Glu Phe Lys  
                   225                  230                  235                  240  
 Gln Ser Leu Ile Lys Tyr Met Glu Thr Gln Arg Ser Tyr Thr Ala Leu  
                   245                  250                  255  
 Ala Glu Ala Asn Cys Leu Lys Gly Ala Leu Ile Lys Thr Gln Leu Cys  
                   260                  265                  270  
 Val Leu Phe Cys Ile Gln Leu Phe Leu Arg Leu Ile Ile Leu Trp Leu  
                   275                  280                  285  
 Cys Ile Leu His Ser Met Cys Asn Leu Phe Cys Cys Leu Leu Phe Ser  
                   290                  295                  300  
 Met Cys Asn Leu Phe Cys Ser Leu Leu Phe Ile Ile Pro Lys Lys Leu  
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Met Ile Phe Leu Arg Thr Val Ile Arg Leu Glu Arg Lys Thr Pro Arg  
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Leu

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35 40 45  
Gly Thr Leu Ser Glu Gly Gln Gly Ser Ala Ile Leu Ile Ser Phe Ile  
50 55 60  
Tyr Ser Val Val Cys Leu Val Gly Leu Cys Gly Asn Ser Met Val Ile  
65 70 75 80



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<400> 67

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22

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<211> 24

<212> DNA

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<220>

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<223> Antigenic peptide

<400> 73

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